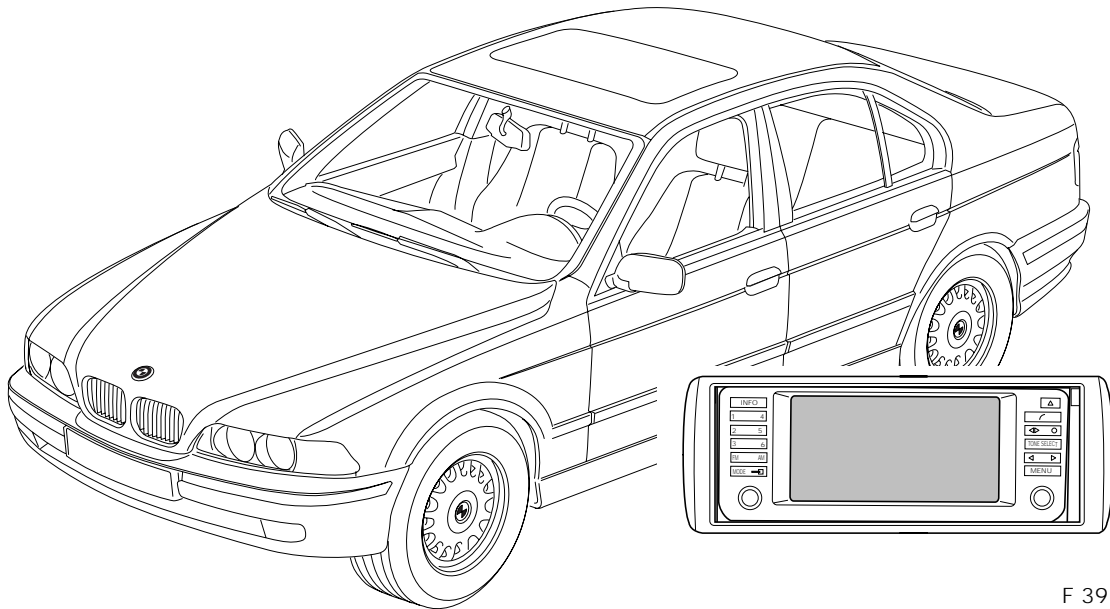




BMW Parts and Accessories Installation Instructions



F 39 0524 B

Retrofit Kit On-board Monitor and Navigation System

BMW 5 Series (E 39)

These installation instructions are only valid for vehicles **prior to production date 9/00** which are equipped with **OE555** High on-board computer.

Technical and electrical knowledge is required
Installation time approx. 7 hours, which can vary according to the condition and fittings of the vehicle.

Retrofit/Installation Kit no.: 65 90 0 025 171
65 90 0 027 764

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1. Important notes on the installation of the on-board monitor and navigation system

Only for use within the BMW trading organisation.

Installation of the on-board monitor and the navigation system may only be undertaken by a specialist workshop which has available the necessary special tools and the required manuals (maintenance, repair, diagnostic, etc.).

When cables/leads are being installed, care should be taken to see that they do not get kinked or damaged.

Additionally installed cables/leads should if necessary be fastened with cable straps.

Item numbers relate only to the overviews or to the text at the side of the associated illustration.

All operations are represented as taking place on a left-hand drive vehicle, the identical logical procedure must be followed for right-hand drive vehicles.

Electrical knowledge is required.



The control cable of the on-board monitor/CD changer does not form part of the installation kit and, in vehicles with CD changer without DSP amplifier, must be ordered separately as per the Electronics Parts Catalogue (EPC).

The trim panel in the boot at rear left in front of the navigation computer does not form part of the installation kit and must be ordered separately as per the Electronics Parts Catalogue (EPC) to accord with the vehicle equipment ◀

Rights are reserved to make technical modifications.

Required tools and auxiliary materials

MoDIC III or DIS

Set of 1/4 inch socket wrenches

Set of Phillips screwdrivers

Cable lamp

Side-cutting pliers

Silicone

Hot-air dryer

Set of Torx socket wrenches

Set of flat-tip screwdrivers

Multimeter

Phillips screwdriver, short

2. Preparatory work

	TIS AW NO.
Print out error memory	
Disconnect battery	12 00 ...
Dismantle finisher of instrument panel, centre left	51 45 030
Dismantle finisher of instrument panel, right	51 45 030
Dismantle radio (no longer required)	65 11 030
Dismantle operating unit (no longer required)	65 12 040
Loosen lower part of the trim panel for instrument panel (as per TIS)	
Dismantle function carrier of radio, is to be replaced by function carrier of the on-board monitor (assembly is described in TIS)	51 16 202
Dismantle trim panel, centre console, front left	51 16 239
Undo centre console, below front left	51 16 239
Dismantle left front seat	52 17 000
Dismantle rear seat bench	52 24 005
Dismantle rear seat back	52 24 015
Dismantle sill strip, left front and left rear	51 47 000/51 47 030
Dismantle lower part of the B-pillar trim panel, left	
Fold up carpet on left	
Dismantle C-pillar trim panel on left and right	51 43 251
Dismantle rear window shelf	51 46 000
Dismantle left speaker under the rear window shelf	
Dismantle boot floor	51 47 101
Dismantle trim panel in boot at rear left (is to be replaced by new trim panel)	51 47 151
Dismantle trim panel in boot, left	
Dismantle trim panel in boot, rear right	51 47 172
Dismantle trim panel of closing panel	51 46 050
Dismantle sill strip at right front and right rear	51 47 000/51 47 030
Dismantle lower part of the B-pillar trim panel, right	
Dismantle A-pillar trim panel, lower right	
Dismantle glove box	51 16 360
Fold up carpet on right	
Dismantle CD changer (if present)	65 11 070
Dismantle bracket for CD changer (if present)	
Dismantle bracket for video module (if present)	
Dismantle DSP amplifier (if present)	65 11 070
Dismantle bracket for DSP amplifier (if present)	65 11 070

2. Preparatory work

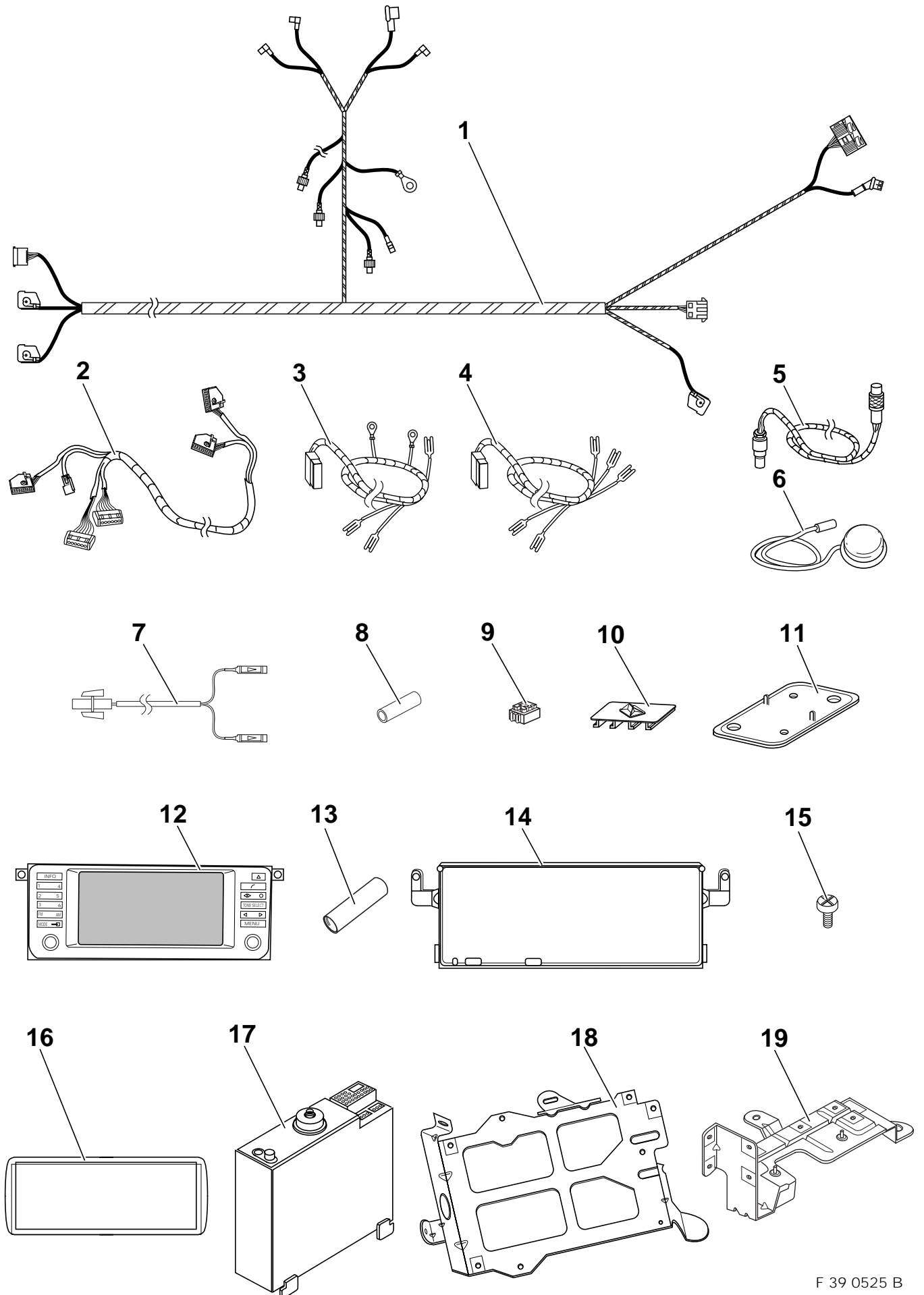
In addition for right-hand drive vehicles

	TIS AW NO.
Dismantle footwell trim panel under the steering column	-

In addition for vehicles from production date 9/99 without speedo A signal at the radio connector X18126

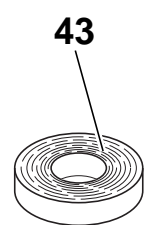
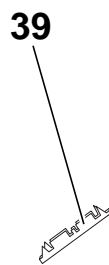
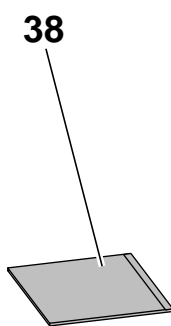
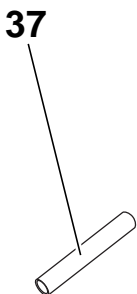
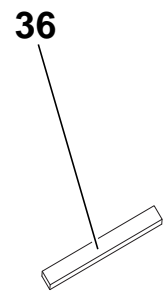
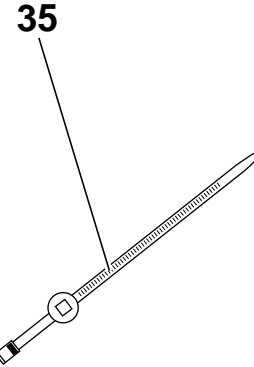
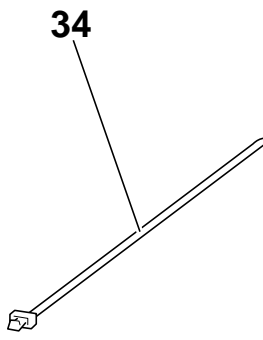
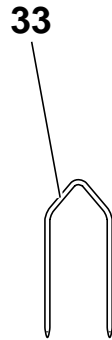
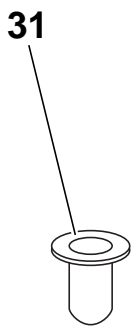
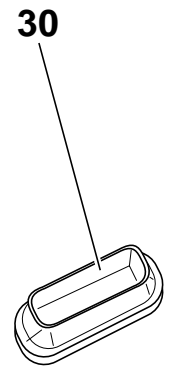
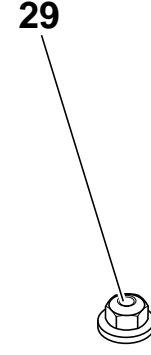
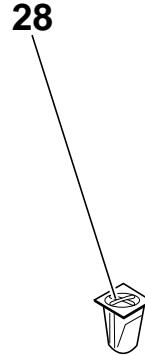
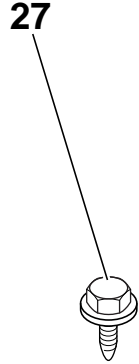
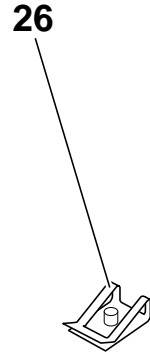
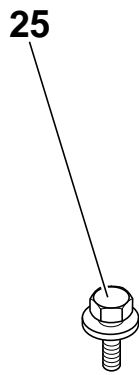
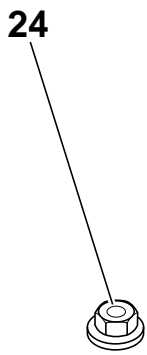
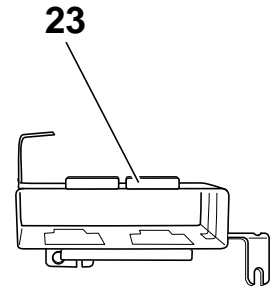
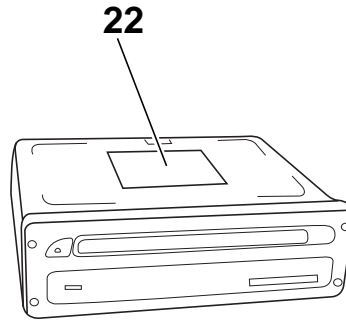
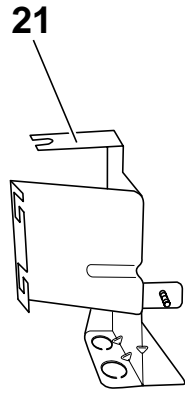
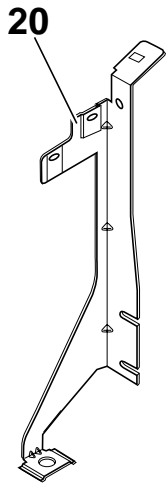
Dismantle finisher of instrument cluster	-
Dismantle instrument cluster	-

3. Parts overview



F 39 0525 B

3. Parts overview

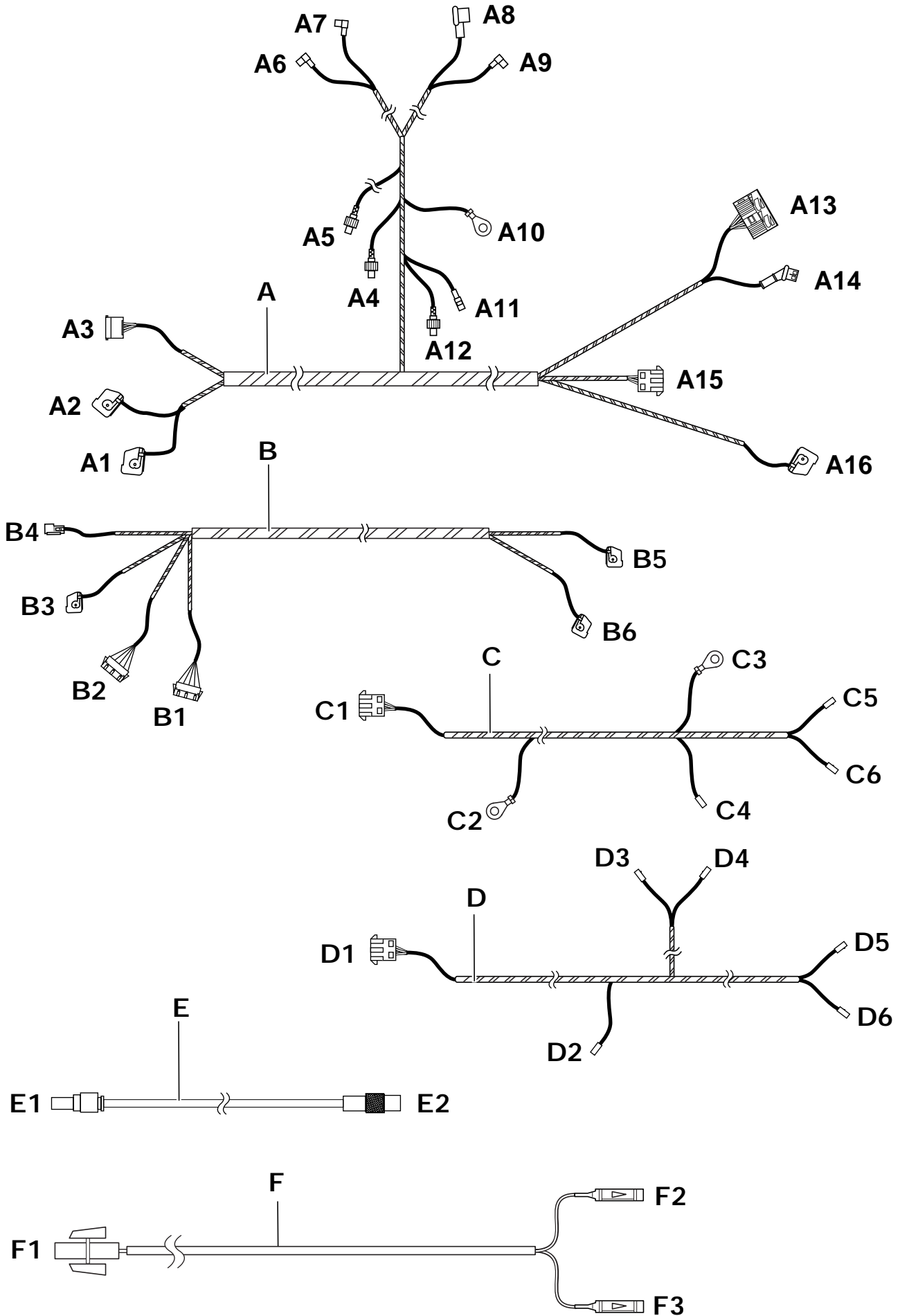


3. Parts overview

- 1 On-board monitor wiring harness
- 2 Navigation wiring harness
- 3 Supplementary wiring harness for navigation system for vehicles prior to production date 9/98
- 4 Supplementary wiring harness for navigation system for vehicles from production date 9/98
- 5 Antenna extension for GPS antenna
- 6 GPS antenna
- 7 Supplementary cable, speedo A signal
- 8 Shrinkage tubing (contained in pack with supplementary cable, speedo A signal)
- 9 2-way insulation-piercing connector (contained in pack with supplementary cable, speedo A signal)
- 10 Mounting clip
- 11 Support of GPS antenna
- 12 Complete on-board monitor
- 13 On-board monitor holding pin (for supporting the on-board monitor)
- 14 Function carrier of on-board monitor
- 15 Cross-recess fillister head screw M3x8 (4 items)
- 16 Cover for on-board monitor
- 17 On-board monitor radio
- 18 Bracket for DSP amplifier
- 19 Base carrier
- 20 Bracket of video module, front
- 21 Bracket of on-board monitor radio and CD changer
- 22 Navigation computer
- 23 Bracket of navigation computer
- 24 Hex nut with washer M5
- 25 Hexagon bolt with washer M5x14 (12 items)
- 26 Plug-in nut M5 (7 items)
- 27 Hex-head self-tapping screw with washer 4.8x16 (3 items)
- 28 Plastic expanding nut 4.8 (3 items)
- 29 Plastic cap nut (3 items)
- 30 Rubber grommet (2 items)
- 31 Bush (for attachment of the bracket of the GPS antenna) (2 items)
- 32 Expanding rivet (for attaching the GPS antenna) (2 items)
- 33 Disassembly clip (2 items)
- 34 Cable strap (20 items)
- 35 Cable holder (2 items)
- 36 Sealing strip
- 37 Shrinkage tubing (contained in pack with supplementary wiring harness for navigation) (2 items)
- 38 Protective strip (2 items)
- 39 Butt-joint connector (7 items)* (for cable cross-section 0.2-0.5 mm₂)
- 40 Butt-joint connector (10 items)* (for cable cross-section 0.75-1.0 mm₂)
- 41 Butt-joint connector (4 items)* (for cable cross-section 1.5-2.5 mm₂)
- 42 Tube (20 items)*
- 43 Textile tape*

Parts marked with * are not required.

4. Connection overview



F 39 0527 B

4. Connection overview

Item	Designation	Cable colour	Connection point in vehicle
A	On-board monitor wiring harness	-	-
A1	blue 12-pole socket housing	-	at blue 12-pole pin housing at on-board monitor (12)
A2	white 12-pole socket housing	-	at white 12-pole pin housing at on-board monitor (12)
A3	black 17-pole pin housing	-	at radio connector X18126
A4	coaxial pin housing	black	is installed to installation location of the left TV amplifier in the C-pillar, left, and tied back
A5	coaxial pin housing	black	is installed to installation location of the right TV amplifier in the C-pillar, right, and tied back
A6	angled coaxial socket housing	black	is tied back with cable strap to the on-board monitor wiring harness A
A7	angled coaxial socket housing	black	is tied back with cable strap to the on-board monitor wiring harness A
A8	black coaxial socket housing (antenna connection)	black	at coaxial pin housing at on-board monitor radio (17) (antenna connection)
A9	angled coaxial socket housing	black	at coaxial pin housing at on-board monitor (17)
A10	ring terminal Ø 6 mm	brown	at ground post X13016 at the C-pillar, left
A11	coaxial socket housing	black	at coaxial pin housing at antenna diversity
A12	coaxial pin housing	black	at coaxial socket housing at antenna diversity
A13	black 17-pole socket housing	-	at on-board monitor radio (17)
A14	10-pole socket housing	-	is clipped into black 17-pole socket housing A13 of the on-board monitor wiring harness A and plugged in with the black 17-pole socket housing A13 at the on-board monitor radio (17)
A15	white 6-pole pin housing	-	at branch cable B1 , white 6-pole socket housing, of navigation wiring harness B
A16	blue 18-pole socket housing	-	at blue 18-pole pin housing at navigation computer (22)

4. Connection overview

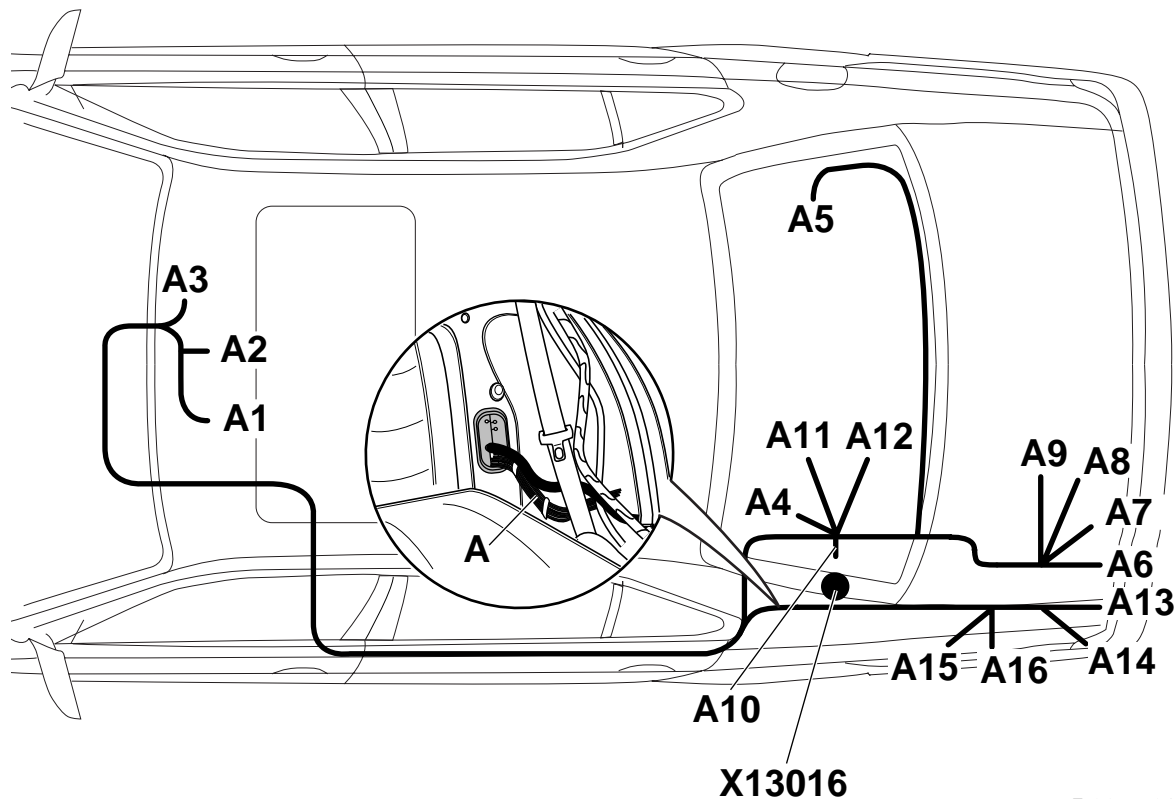
Item	Designation	Cable colour	Connection point in vehicle
B	Navigation wiring harness	-	-
B1	white 6-pole socket housing	-	at branch cable A15 , white 6-pole pin housing of the on-board monitor wiring harness A
B2	black 6-pole socket housing	-	In vehicles prior to production date 9/98 at branch cable C1 , black 6-pole pin housing of the supplementary wiring harness for navigation C
			In vehicles from production date 9/98 at branch cable D1 , black 6-pole pin housing of the supplementary wiring harness for navigation D
B3	white 18-pole socket housing	-	is tied back with cable strap to navigation wiring harness B
B4	black 6-pole pin housing	-	In vehicles equipped with Basis-Interface Telephone 2 (BIT2), is plugged together with the black 6-pole socket housing of the Basis-Interface Telephone wiring harness (BIT2).
			In vehicles without Basis-Interface Telephone 2 (BIT2), insulate and tie back
B5	blue 18-pole socket housing	-	is tied back with cable strap to the navigation wiring harness B
B6	Bordeaux-coloured 18-pole socket housing	-	at Bordeaux-coloured 18-pole pin housing at navigation computer (22)

C	Supplementary wiring harness for navigation for vehicles prior to production date 9/98	-	-
C1	black 6-pole pin housing	-	at branch cable B2 , black 6-pole socket housing, of the navigation wiring harness B
C2	cable lug Ø 6mm	brown	at ground post X10305 under the rear light, left
C3	cable lug Ø 6mm	brown	at ground post X10012 in the front area of the right sill
C4	1-pole blade terminal contact	white/yellow	at light module X10117 in black 54-pole socket housing, PIN38
C5	1-pole blade terminal contact	black	at connector X1171 of ABS control unit in PIN9 , in LHD vehicles tie back excess length
			In automatic vehicles with M62 B44 engine and DSC, from production date 9/97 to production date 9/98 at connector X1171 of ABS control unit in PIN72 , in LHD vehicles tie back excess length.
C6	1-pole blade terminal contact	yellow	at connector X1171 of ABS control unit in PIN42 , in LHD vehicles tie back excess length
			In automatic vehicles with M62 B44 engine and DSC, from production date 9/97 to production date 9/98 at connector X1171 of ABS control unit in PIN73 , in LHD vehicles tie back excess length

4. Connection overview

Item	Designation	Cable colour	Connection point in vehicle
D	Supplementary wiring harness for navigation in vehicles from production date 9/98	-	-
D1	black 6-pole pin housing	-	at branch cable B2 , black 6-pole socket housing, of navigation wiring harness B
D2	1-pole blade terminal contact	white/yellow	at light module X10117 in black 54-pole socket housing, PIN38
D3	1-pole blade terminal contact	yellow/red	at joint connector X10183 (cable colour at joint connector yellow/red). If D3 is not required, insulate with shrinkage tubing and tie back. In LHD vehicles tie back excess length.
D4	1-pole blade terminal contact	yellow/white	at joint connector X10184 (cable colour at joint connector yellow/white). If D4 is not required, insulate with shrinkage tubing and tie back. In LHD vehicles tie back excess length.
D5	1-pole blade terminal contact	yellow/red	at black 42-pole connector X1170 of hydraulic unit ABS in PIN35 . If D5 not required, insulate with shrinkage tubing and tie back
D6	1-pole blade terminal contact	yellow/white	at black 42-pole connector X1170 of hydraulic unit ABS in PIN18 . If D6 not required, insulate with shrinkage tubing and tie back
E	Antenna extension for GPS antenna	-	-
E1	Coaxial pin housing	-	at GPS antenna (6)
E2	Coaxial socket housing	-	at navigation computer (22)
F	Zusatzkabel Tacho A-Signal	-	-
F1	schwarzes 1polliges Buchsengehäuse	black/white	with 2-way insulation-piercing connector at speedo A signal, cable colour black/white, PIN10 of branch cable A3 , black 17-pole pin housing of the on-board monitor wiring harness A
F2	1poliger Flachsteckkontakt KL.TAA	black/white	In vehicles with High instrument cluster (OE555) pin in at white 18-pole instrument cluster connector X10113 in PIN 3 ----- In vehicles with Low instrument cluster insulate with shrinkage tubing and tie back
F3	1poliger Flachsteckkontakt KL.TAA	white	In vehicles with Low instrument cluster pin in at white 26-pole instrument cluster connector X11176 in PIN 14 ----- In vehicles with High instrument cluster (OE555) insulate with shrinkage tubing and tie back

5. Installation and cabling diagram of the on-board monitor wiring harness



F 39 0528 B

The on-board monitor wiring harness **A** is, as shown, to be installed along the audio or main wiring harness and to be fastened with cable straps.

When installing the on-board monitor wiring harness A, you should begin at the ground post X13016 in the area of the C-pillar at rear left.

Branch cable **A10**, screw on at ground post **X13016** in the area of the C-pillar, rear left

Branch cable **A4**, install to the installation location of the left-hand side TV amplifier at the C-pillar, left and tie back (is only connected in association with the installation of a video module and the TV amplifiers)

Branch cable **A11** and **A12** to the antenna amplifier at the C-pillar, left.

Branch cable **A5**, install to the installation location of the right TV amplifier at the C-pillar right and tie back (is only connected in association with the installation of a video module and the TV amplifiers)

Branch cables **A6** to **A9** through the opening in the rear window shelf into the boot to the installation location of the on-board monitor in the side part, rear left

Tie back branch cables **A6** to **A7** (they are only connected in association with the installation of a video module and the TV amplifiers)

Branch cables **A13** to **A16** through the lead-through grommet behind the rear-seat back along the main cable loom into the boot

Branch cables **A13** and **A14** to the installation location of the on-board monitor radio in the side part, rear left

Install branch cable **A15** to the installation location of the video module bracket in the side part, rear left and snap in at mounting clip

Branch cable **A16** to the installation location of the navigation computer in the side part, rear left

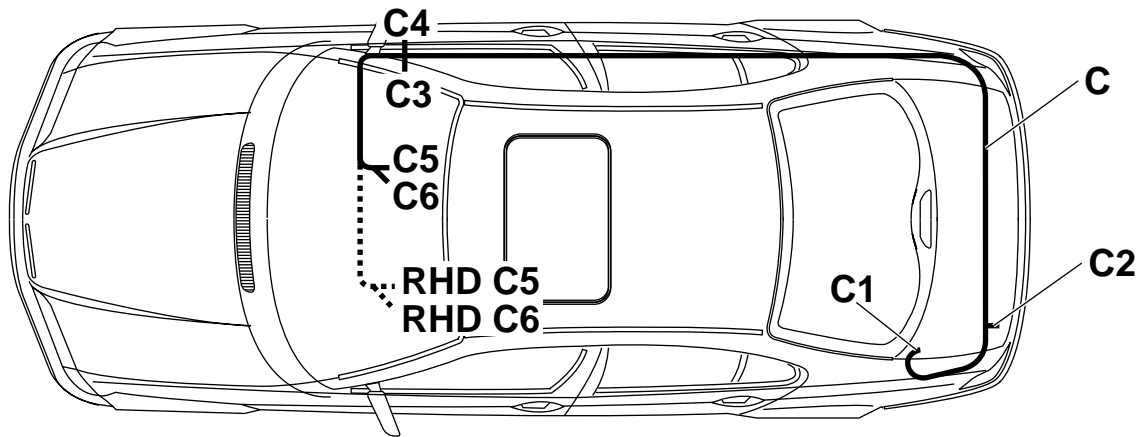


The on-board monitor wiring harness **A** crosses behind the left front seat and from there is installed along the driveshaft tunnel behind the centre console to the installation location of the on-board monitor ◀

Branch cables **A1** to **A3** along the series audio wiring harness to the installation location of the on-board monitor in the I board.

Any excessive lengths should be tied back

6. Installation and cabling diagram of the supplementary wiring harness for navigation in vehicles prior to production date 9/98



F 39 0530 B

The supplementary wiring harness for navigation **C** should be installed in vehicles prior to production date 9/98 as shown and fastened with cable straps.

When installing the supplementary wiring harness for Navigation C, you should begin with branch cable C1.

Branch cable **C1** to installation location of the bracket of the video module, in boot rear left

Branch cable **C2** to ground post **X10305** under the tail light, left

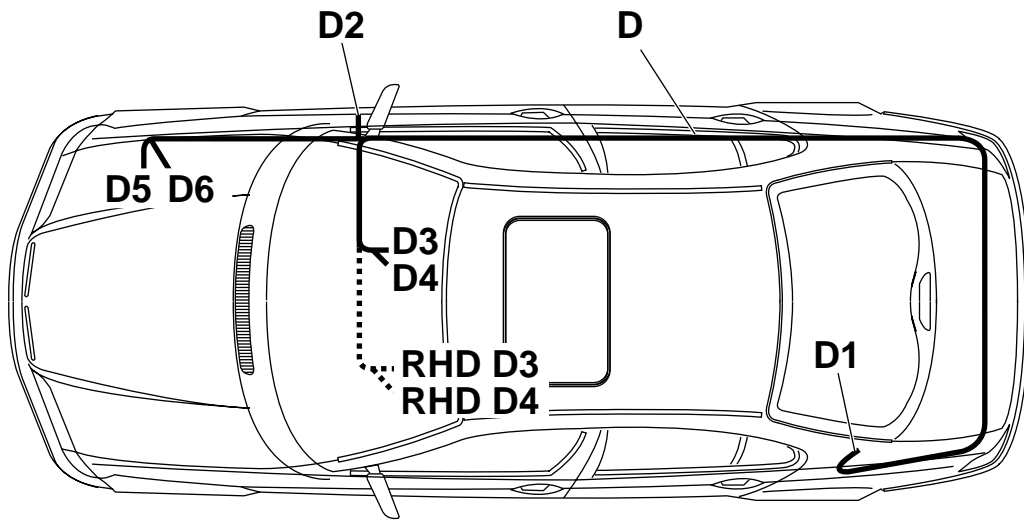
Branch cables **C3** to **C6** along the closing panel to the right side part, from there through the lead-through grommet in the rear window shelf into the interior of the vehicle and from there along the right main cable loom to the installation location of the light module in the A-pillar, right

Branch cable **C3** to the ground post **X10012** in the forward area of the right sill

Branch cables **C5** and **C6** to the installation location of the ABS control unit, left in the vicinity of the glove box, or, in RHD vehicles, behind the heater box towards the left to the ABS control unit on the right in the vicinity of the glove box

Tie back any excess lengths

7. Installation and cabling diagram of the supplementary cable for navigation in vehicles from production date 9/98



F 39 0531 B

The supplementary wiring harness for navigation **D** should be installed in vehicles from production date 9/98 as shown and fastened with cable straps.

When installing the supplementary wiring harness for Navigation D, you should begin with branch cable D1.

Branch cable **D1** to installation location of the bracket of the video module, in boot rear left
Branch cable **D2** to **D6** along the closing panel to the right side part, from there through the lead-through grommet in the rear window shelf into the interior of the vehicle and from there along the right main cable loom to the installation location of the light module in the A-pillar, right

Branch cables **D3** and **D4** to the joint connectors behind the glove box, or, in RHD vehicles, behind the heater box towards the left to the joint connectors behind the glove box

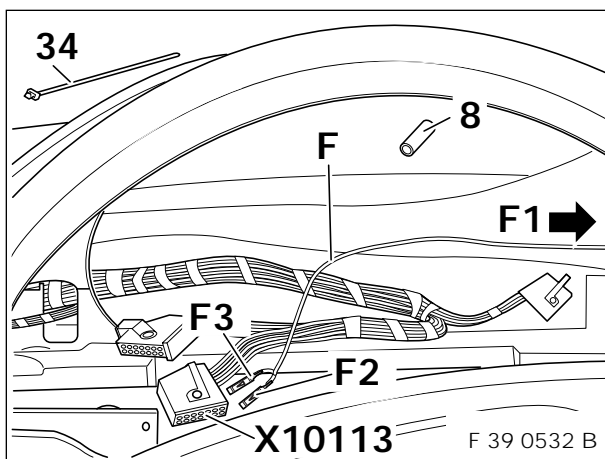
Branch cables **D5** and **D6** through the lead-through grommet in the bulkhead into the engine compartment, right, to the installation location of the hydraulic unit ABS

Tie back any excess lengths

8. Install supplementary speedo A signal in vehicles from production date 9/99, without speedo A signal at radio connector X18126



In vehicles from **production date 9/99** you should check to see whether the speedo A signal is still present at radio connector **X18126**, **PIN10**, cable colour black/white in the instrument panel. If the speedo A signal is not present, the following steps are necessary in addition. ◀



Only vehicles with High instrument cluster (OE555)



Illustration shows installation location of the instrument cluster of a LHD vehicle. You should proceed in the identical logical sequence for a RHD vehicle. ◀

Decouple and open white 18-pole instrument cluster connector **X10113**.

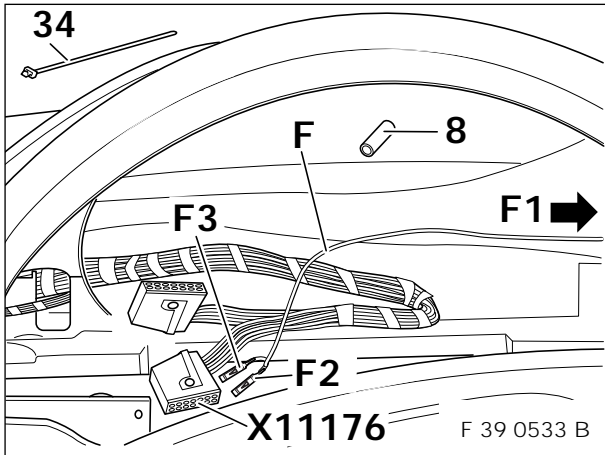
Pin branch cable **F2**, 1-pole socket contact, cable colour black/white of the supplementary cable speedo A signal **F**, into the free plug-in place **PIN3** of the connector **X10113**.

Insulate branch cable **F3**, 1-pole socket contact, cable colour white, with shrinkage tubing (8) and tie back.

Then couple and lock connector **X10113**.

Install branch cable **F1**, 1-pole black socket housing, cable colour black/white, to the radio connector **X18126** in the instrument panel and fasten with cable straps (34).

8. Install supplementary speedo A signal in vehicles from production date 9/99, without speedo A signal at radio connector X18126



Only vehicles with Low instrument cluster

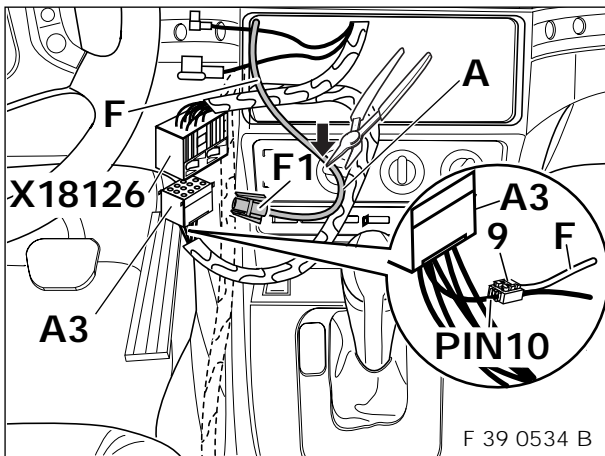
▶ Illustration shows installation location of the instrument cluster of a LHD vehicle. You should proceed in the identical logical sequence for a RHD vehicle. ◀

Decouple and open white 26-pole instrument cluster connector **X11176**.

Pin branch cable **F3**, 1-pole socket contact, cable colour white of the supplementary cable speedo A signal **F**, into the free plug-in place **PIN14** of the connector **X11176**.

Insulate branch cable **F2**, 1-pole socket contact, cable colour black/white, with shrinkage tubing (8) and tie back.

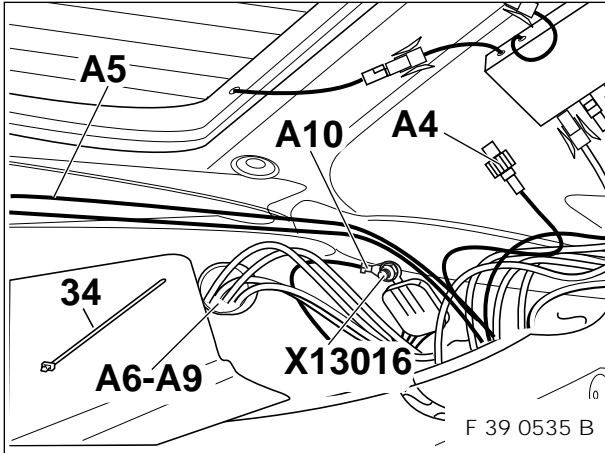
Then couple and lock connector **X11176** again. Install branch cable **F1**, 1-pole black socket housing, cable colour black/white, to the radio connector **X18126** in the instrument panel and fasten with cable straps (34).



Vehicles with High or Low instrument cluster

Cut off excess length of the supplementary cable speedo A signal **F**, cable colour black/white, in the area of branch cable **F1**. Then connect free cable end with 2-way insulation-piercing connector (9) to speedo A signal, cable colour black/white, **PIN10**, of branch cable **A3**, black 17-pole pin housing, coming from on-board monitor wiring harness **A**.

9. Install on-board monitor wiring harness, on-board monitor and on-board monitor radio

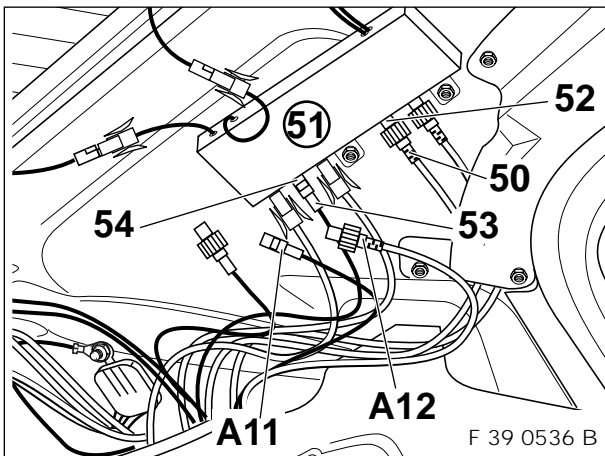


▶ Illustration shows C-pillar, left, from inside. ◀

Screw branch cable **A10**, ring terminal \varnothing 6mm, of the on-board monitor wiring harness **A**, to the ground post **X13016** at the C-pillar, rear left. Tie back branch cable **A4**, coaxial pin housing, of the on-board monitor wiring harness **A**, with cable strap (34) (is only connected in association with the installation of a video module and the TV amplifiers).

Install branch cable **A5**, coaxial pin housing, of the on-board monitor wiring harness **A**, on the rear window shelf along the rear window to the installation location of the right TV amplifier to the C-pillar, right, and tie it back with cable straps (34) (is only connected in association with the installation of a video module and of the TV amplifiers).

Install branch cables **A6** to **A9** through the lead-through grommet in the rear window shelf into the boot to the installation location of the on-board monitor radio in the side part, rear left.



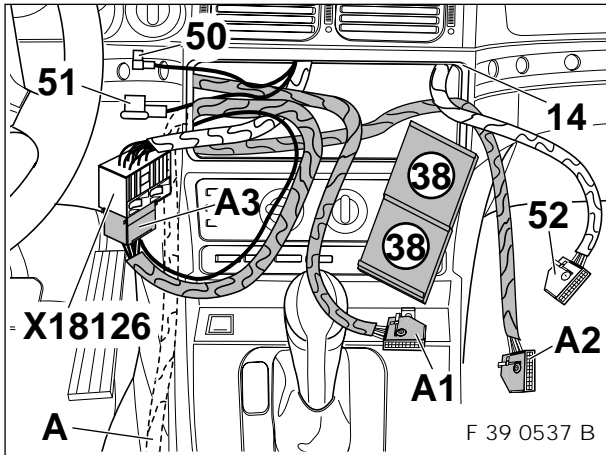
Unscrew existing coaxial pin housing (50) from antenna amplifier (51) and tie back (no longer required).

Screw branch cable **A12**, coaxial pin housing, of on-board monitor wiring harness **A**, onto the freed coaxial socket housing (52) of the antenna amplifier (51).

Unplug existing coaxial socket housing (53) of antenna amplifier (51) and tie back (no longer required).

Plug on branch cable **A11**, coaxial socket housing, of on-board monitor wiring harness **A**, onto the freed coaxial pin housing (54) of the antenna amplifier (51).

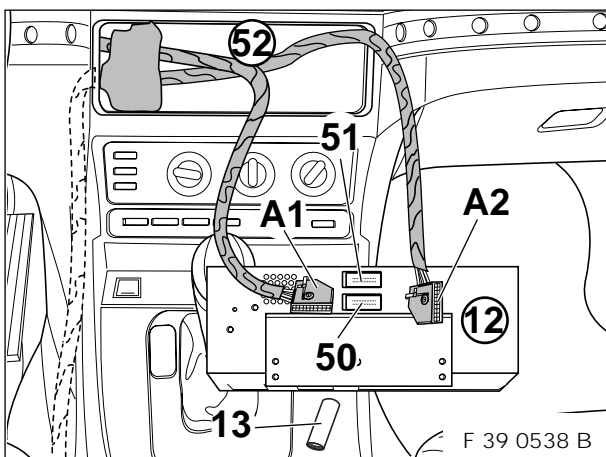
9. Install on-board monitor wiring harness, on-board monitor and on-board monitor radio



! Before the work steps are carried out as shown in the illustration, the new function carrier of the on-board monitor (14) must be equipped as described in the TIS. ◀

Plug together branch cable **A3**, black 17-pole pin housing, of the on-board monitor wiring harness **A**, with the existing radio connector **X18126**. Stick one rattle protector (38) onto the second rattle protector (38) and then stick it onto the wiring harness in such a way that the existing angled coaxial socket housing (50), the black coaxial socket housing (51) (antenna connection), the connector of the receiver part (52) and the plug-in connector **A3+X18126** are enclosed.

The enclosed connections (50, 51, 52), as well as the enclosed plug-in connector **A3+X18126** are no longer required and should be placed behind the heating and ventilation operating unit.



Screw on-board monitor holding pin (13) onto the on-board monitor (12).

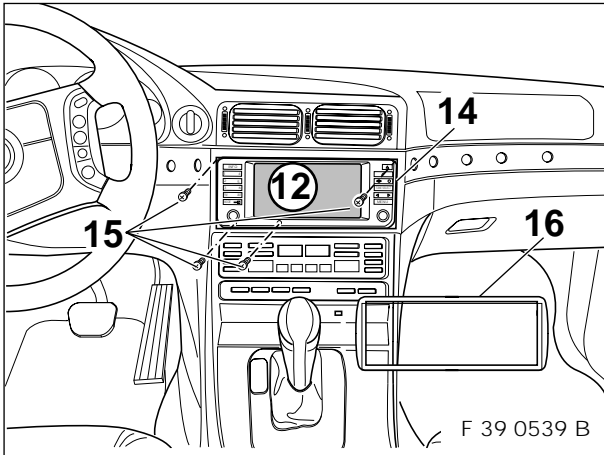
Plug branch cable **A1**, blue 12-pole socket housing, of the on-board monitor wiring harness **A**, onto the blue 12-pole pin housing (50) at the on-board monitor (12).

Plug branch cable **A2**, white 12-pole socket housing, of the on-board monitor wiring harness **A**, onto the white pin housing (51) of the on-board monitor (12).

Then feed the cables into the on-board monitor cavity (52) and carefully push in the on-board monitor (12).

! When pushing the on-board monitor in, make sure that no cables become damaged. ◀

9. Install on-board monitor wiring harness, on-board monitor and on-board monitor radio



Screw on-board monitor (12) to the function carrier of the on-board monitor (14) with four crossed recessed raised cheese-head screws M3x8 (15). Then put the cover for the on-board monitor (16) onto the on-board monitor (12).

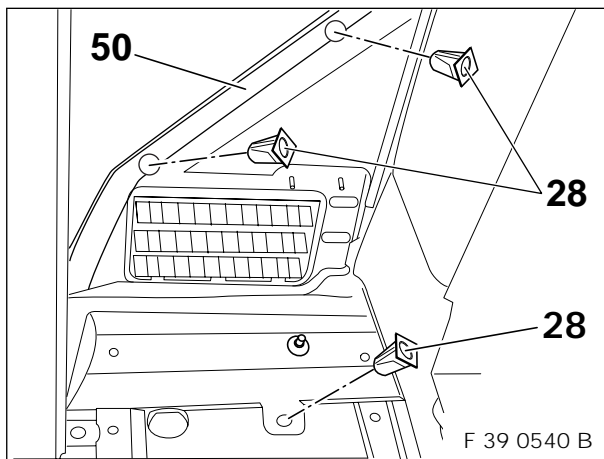
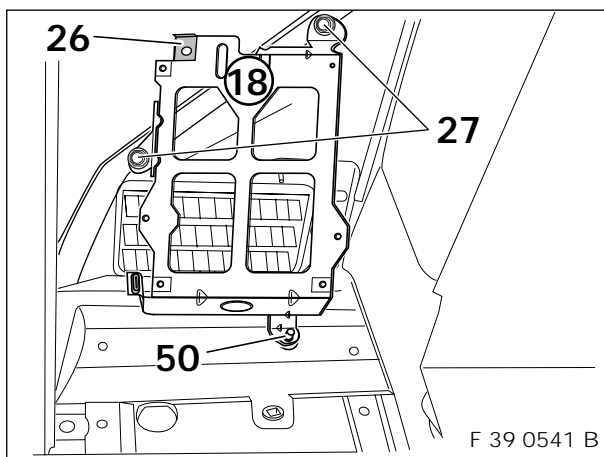
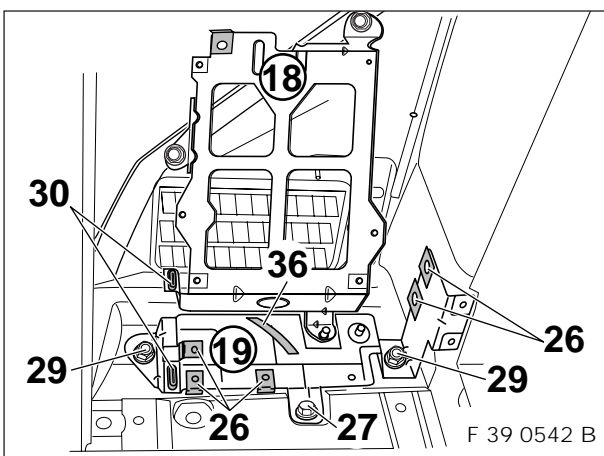


 Illustration shows boot, rear left. ◀

Insert two plastic expanding nuts 4.8 (28) in the cross brace (50) in the side part, rear left. Insert another plastic expanding nut 4.8 (28) in the frame part, rear left.

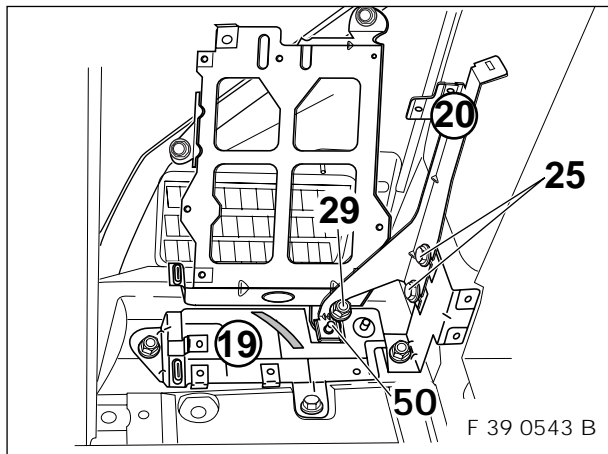


Place bracket of DSP amplifier (18) in boot at rear left on the attachment bolt (50) and screw it on with two hexagon-head self-tapping screws with washer 4.8x16 (27). Put plug-in nut M5 (26) on bracket of DSP amplifier (18)

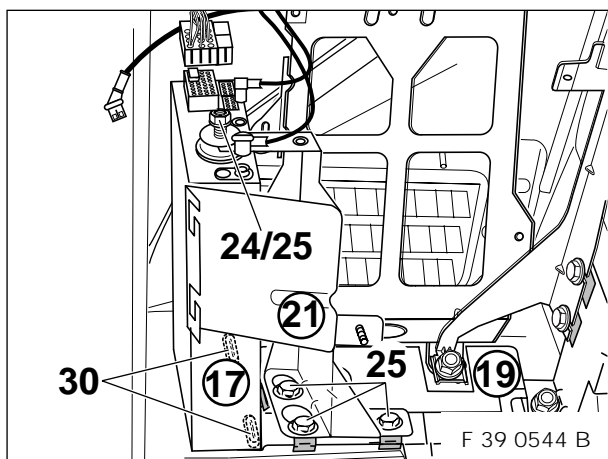


Stick sealing strip (36) onto the base carrier (19). Put five plug-in nuts M5 (25) onto the base carrier (19) and screw base carrier (19) onto the boot floor at rear left with two plastic cap nuts (29) and with one hexagon-head self-tapping screw with washer 4.8x16 (27). Then insert the two rubber grommets (30) in the recesses provided for them in the bracket of the DSP amplifier (18) and in the base carrier (19).

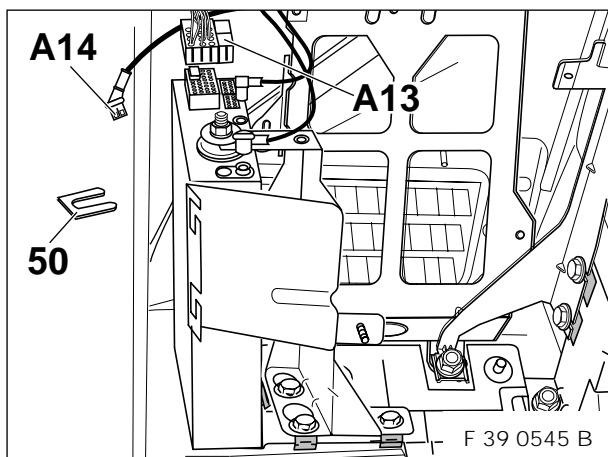
9. Install on-board monitor wiring harness, on-board monitor and on-board monitor radio



Screw bracket of video module, front, (20) onto the base carrier (19) with two hexagon-head bolts with washers M5x14 (25) and onto the attachment bolt (50) with a plastic cap nut (29).



Insert on-board monitor radio (17) into the previously fitted rubber grommets (30). Place bracket of on-board monitor radio and CD changer (21) in position and screw onto the base carrier (19) with three hexagon-head screws with washers M5x14 (25). Screw on-board monitor radio (17) to the bracket for on-board monitor radio and CD changer (21) with hex nut with washer M5 (24) or with hexagon-head bolt with washer M5x14 (25), depending on the design of the on-board monitor radio.

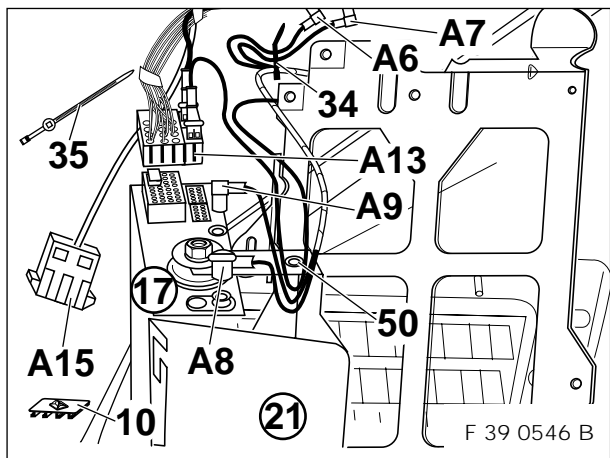


Remove blue locking clip (5) from branch cable **A13**, black 17-pole socket housing, of the on-board monitor wiring harness **A** and insert branch cable **A14**, 10-pole socket housing, of the on-board monitor wiring harness **A** into branch cable **A13**.

In vehicles with CD changer but without DSP amplifier, the control cable of the on-board monitor radio/CD changer has to be fitted in addition.

Secure branch cable **A14** with blue locking clip (50).

9. Install on-board monitor wiring harness, on-board monitor and on-board monitor radio



Connect branch cable **A8**, black coaxial socket housing (antenna connection), coming from on-board monitor wiring harness **A**, to on-board monitor radio (17).

Connect branch cable **A9**, angled coaxial socket housing, coming from on-board monitor wiring harness **A**, to on-board monitor radio (17).

Connect branch cable **A13**, black 17-pole socket housing, coming from on-board monitor wiring harness **A**, to on-board monitor radio (17).

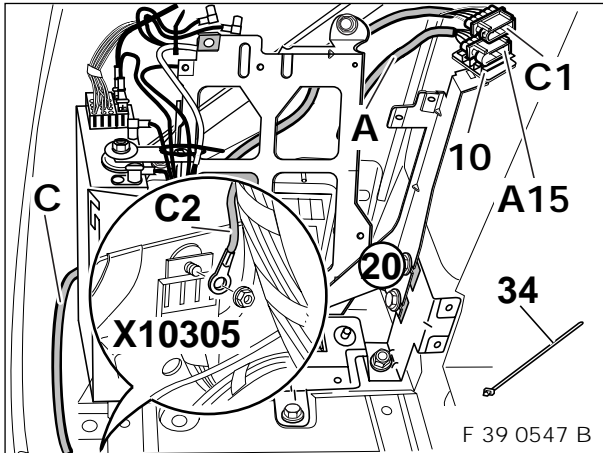
Insert cable holder (35) in the bore hole (50) in the bracket of the on-board monitor radio and CD-changer (21).

The cables of the connected branch cables **A8** and **A9** and if necessary also the control cable of the on-board monitor radio /CD changer should be fastened with the cable holder (35).

Clip branch cable **A15**, tan-coloured 6-pole pin housing, coming from on-board monitor wiring harness **A**, into the mounting clip (10) (will be latched later to the bracket of the video module, front).

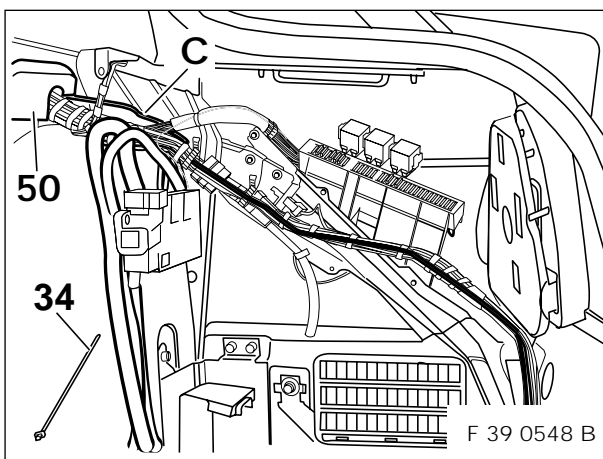
Tie back branch cables **A6** and **A7**, angled coaxial socket housings, coming from on-board monitor wiring harness **A**, to on-board monitor wiring harness **A** with cable strap (34).

10. Install supplementary wiring harness for navigation in vehicles prior to production date 9/98

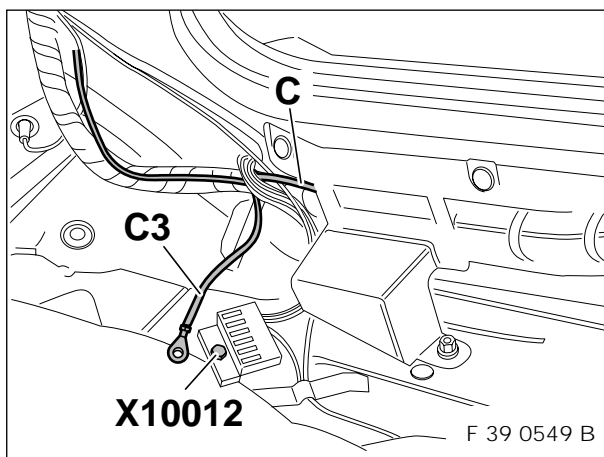


Clip the mounting clip (10) with the engaged branch cable **A15** coming from on-board monitor wiring harness **A** into the bracket of the video module, front (20).

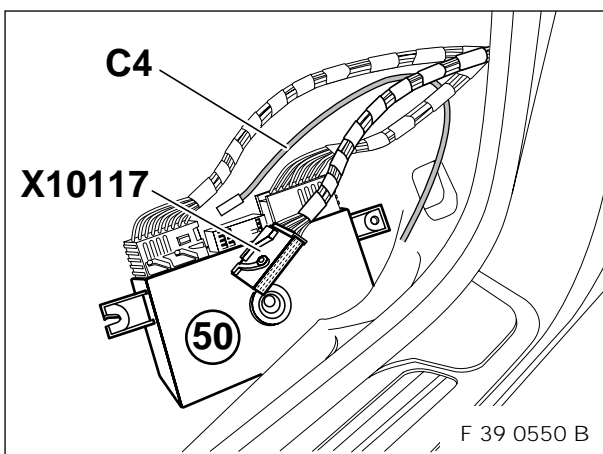
Engage branch cable **C1**, black 6-pole pin housing, coming from supplementary wiring harness for navigation **C**, onto branch cable **A15**. Screw branch cable **C2**, cable lug Ø 6 mm, onto ground post **X10305** under the left tail light. Install supplementary wiring harness for navigation **C** along the closing panel to the right side part and from there through the lead-through grommet in the boot upper right and fasten with cable straps (34).



Install supplementary wiring harness for navigation **C** with branch cables **C3**, **C4**, **C5** and **C6** through the lead-through grommet (50) in the vehicle interior and along the right-hand side main cable loom to the installation location of the light module in the A-pillar, right. Fasten with cable straps (34).

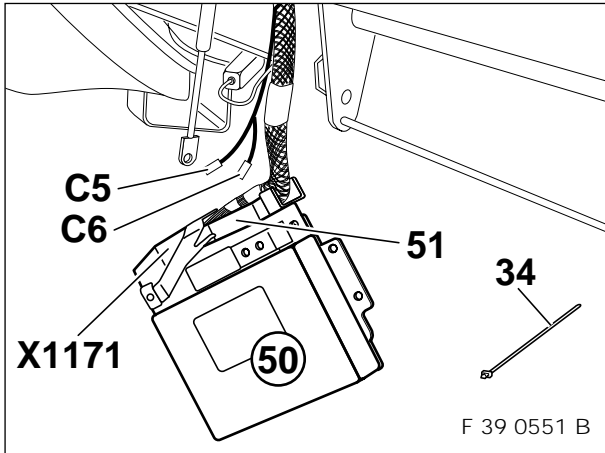


Screw branch cable **C3**, cable lug Ø 6 mm, to ground post **X10012** in the front area of the right sill.



Dismantle light module (50), unplug the black 54-pole socket housing **X10117** from the light module (50) and open it. Plug branch cable **C4**, 1-pole blade terminal contact, cable colour white/yellow, into **PIN38** of the black 54-pole socket housing **X10117**. Then close black socket housing **X10117**, connect it and re-install light module (50). If necessary tie back excess length of supplementary wiring harness for navigation **C** before branch cable **C4**.

10. Install supplementary wiring harness for navigation in vehicles prior to production date 9/98



▶ Illustration shows installation in a left-hand drive vehicle. The identical logical procedure should be followed for right-hand drive vehicles. ◀

In left-hand drive vehicles, install branch cable **C5** and **C6** coming from supplementary wiring harness for navigation **C**, to the ABS control unit (5) on the left in the vicinity of the glove box (excess length must be tied back).

In right-hand drive vehicles, install branch cables **C5** and **C6** coming from supplementary wiring harness for navigation **C**, behind the heater box towards the left to the ABS control unit on the right in the vicinity of the glove box. Dismantle ABS control unit (50). Unpin control unit connector **X1171** and take it apart. Insert branch cables **C5** and **C6** in the plug lead-in (51).

Plug branch cable **C5**, 1-pole blade terminal contact, cable colour black, into **PIN9** of the control unit connector **X1171**. If **PIN9** is already assigned, the contact part of branch cable **C5** must be cut off and the black cable in the space of the ABS connector must be soldered to the cable of **PIN9** and insulated.

Insert branch cable **C6**, 1-pole blade terminal contact, cable colour yellow, in **PIN 42** of the control unit connector **X1171**. If **PIN42** is already assigned, the contact part of branch cable **C6** must be cut off and the yellow cable in the space of the ABS connector must be soldered to the cable of **PIN42** and insulated.

Re-assemble control unit connector **X1171** and plug it onto ABS control unit (50). Install ABS control unit (50) and fasten supplementary wiring harness for navigation **C** with cable straps (34).

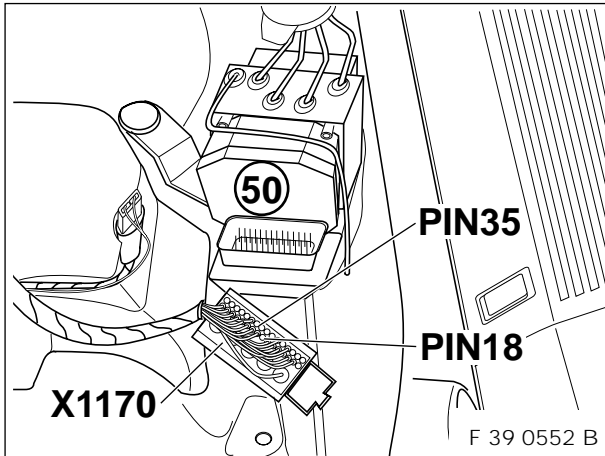
Only for automatic vehicles with M62 B44 engine and DSC, from production date 9/97 to production date 9/98


Insert branch cable **C5**, 1-pole blade terminal contact, cable colour black, in **PIN 72** of the control unit connector **X1171**. If **PIN72** is already assigned, the contact part of branch cable **C5** must be cut off and the black cable in the space of the ABS connector must be soldered to the cable of **PIN72** and insulated.

Insert branch cable **C6**, 1-pole blade terminal contact, cable colour yellow, in **PIN 73** of the control unit connector **X1171**. If **PIN73** is already assigned, the contact part of branch cable **C6** must be cut off and the yellow cable in the space of the ABS connector must be soldered to the cable of **PIN73** and insulated.

Re-assemble control unit connector **X1171** and plug it onto ABS control unit (50). Install ABS control unit (50) and fasten supplementary wiring harness for navigation **C** with cable straps (34).

11. Choose installation of the supplementary wiring harness for navigation in vehicles from production date 9/98



 Illustration shows engine compartment, front right. ◀

Unplug the black 42-pole connector **X1170** of the hydraulic unit ABS (50) in the engine compartment, front right. Open it and check whether **PIN18** and **PIN35** are assigned.

If **PIN18** and **PIN35** are not assigned, installation of the supplementary wiring harness for navigation should be carried out as described in **Chapter 12**.

Chapter 12. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 and PIN35 at connector of the ABS hydraulic unit not assigned).

If **PIN18** and **PIN35** are assigned, installation of the supplementary wiring harness for navigation should be carried out as described in **Chapter 13**.

Chapter 13. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 and PIN35 at connector of the ABS hydraulic unit assigned)

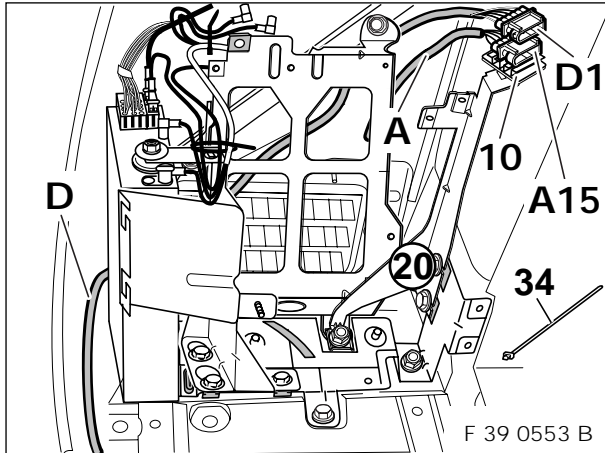
If **PIN18** is assigned and **PIN35** not assigned, installation of the supplementary wiring harness for navigation should be carried out as described in **Chapter 14**.

Chapter 14. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 assigned and PIN35 not assigned at connector of the ABS hydraulic unit).

If **PIN18** is not assigned and **PIN35** assigned, installation of the supplementary wiring harness for navigation should be carried out as described in **Chapter 15**.

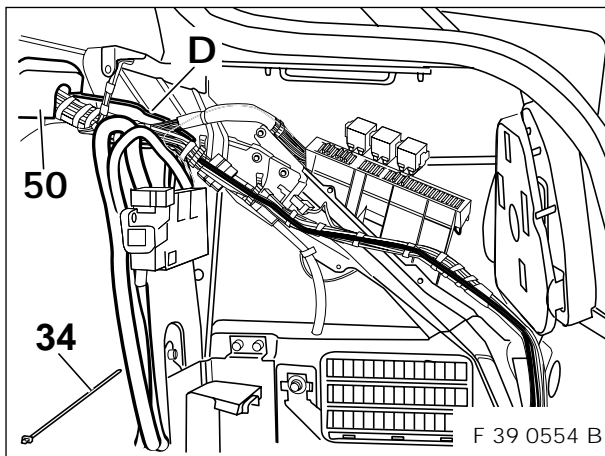
Chapter 15. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 not assigned and PIN35 assigned at connector of the ABS hydraulic unit)

12. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 and PIN35 at connector of the hydraulic unit ABS not assigned)

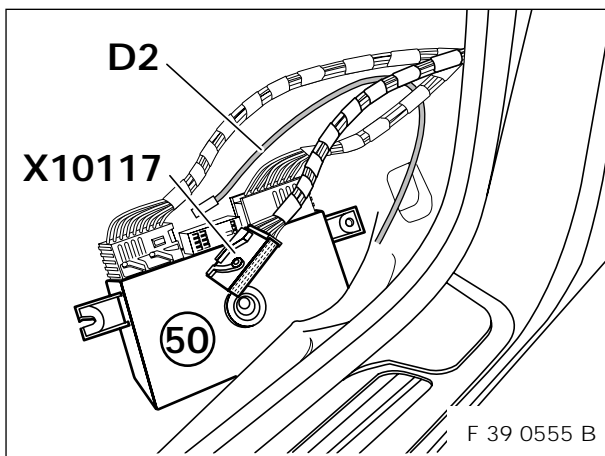


▶ Illustration shows boot, rear left. ◀

Clip the mounting clip (10) with the engaged branch cable **A15** coming from on-board monitor wiring harness **A** into the bracket of the video module, front (20). Engage branch cable **D1**, black 6-pole pin housing, coming from supplementary wiring harness for navigation **D**, onto branch cable **A15**. Install supplementary wiring harness for navigation **D** along the closing panel to the right side part and from there through the lead-through grommet in the boot upper right. Attach supplementary wiring harness for navigation **D** with cable straps (34).

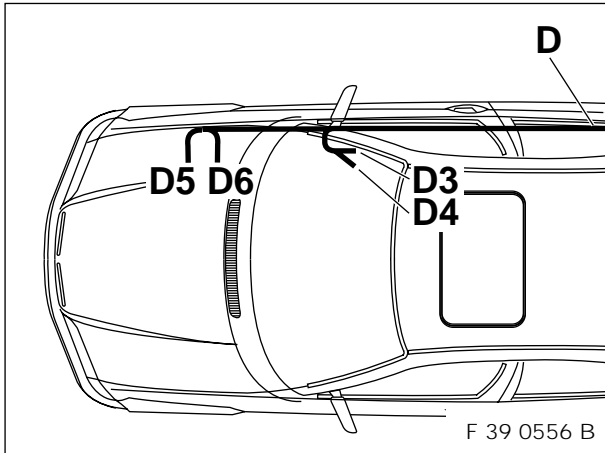


Install supplementary wiring harness for navigation **D** with branch cables **D2**, **D3**, **D4**, **D5** and **D6** through the lead-through grommet (50) in the vehicle interior and along the right-hand side main cable loom to the installation location of the light module in the A-pillar, right. Fasten with cable straps (34).



Dismantle light module (50), unplug the black 54-pole socket housing **X10017** from the light module (50) and open it. Plug branch cable **D2**, 1-pole blade terminal contact, cable colour white/yellow, into **PIN38** of the black 54-pole socket housing **X10117**. Then close black socket housing **X10117**, connect it and re-install light module (50). If necessary tie back excess length of supplementary wiring harness for navigation **D** before branch cable **D2**.

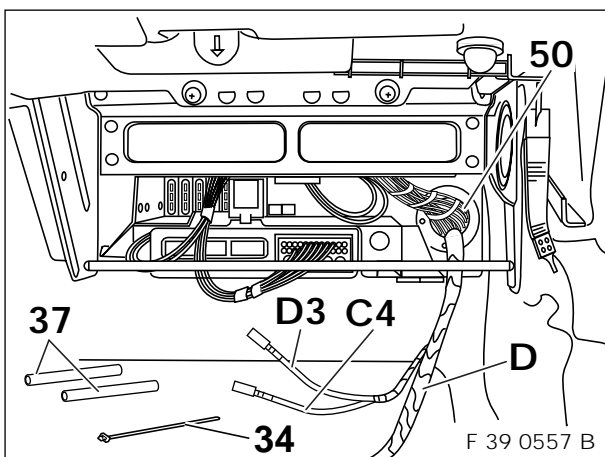
12. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 and PIN35 at connector of the hydraulic unit ABS not assigned)



⚠ Before further installation of the supplementary wiring harness for navigation D is undertaken, the cover of the control unit box in the engine compartment, right, should be dismantled. ◀

Insulate branch cables **D3** and **D4** of the supplementary wiring harness for navigation **D** with shrinkage tubing and tie back in the area of the right front sill.

Install branch cables **D5** and **D6** of the supplementary wiring harness for navigation **D** through the lead-through grommet in the bulkhead, front right, into the control unit box and from there onwards to the hydraulic unit ABS and connect them to connector **X1170** of the hydraulic unit ABS.



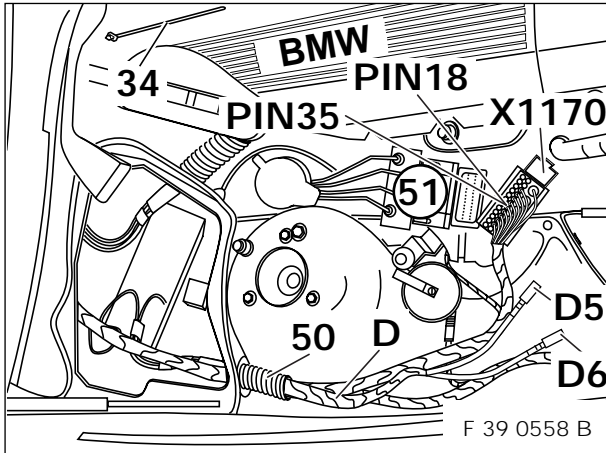
▶ Illustration shows the area behind the glove box in a left-hand drive vehicle. You should proceed in the identical sequence for right-hand drive vehicles. ◀

Feed the supplementary wiring harness for navigation **D** with branch cables **D5** and **D6** through the lead-through grommet (50) in the bulkhead, front right, to the control unit box in the engine compartment and fasten with cable straps (34).

Push on a shrinkage tubing (37) for insulation in each case onto branch cable **D3**, 1-pole blade terminal contact, cable colour yellow/red and branch cable **D4**, 1-pole blade terminal contact, cable colour yellow/white, of the supplementary wiring harness for navigation **D**, and shrink them on with hot-air dryer.

Then tie back branch cables **D3** and **D4** in the area of the right front sill with cable straps (34).

12. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 and PIN35 at connector of the hydraulic unit ABS not assigned)



Carefully cut open rubber grommet (50) at the control unit box in the front area and push supplementary wiring harness for navigation **D** with branch cables **D5** and **D6** carefully through the opening in the rubber grommet (50) and install to the hydraulic unit ABS (51).

▣ Having installed the supplementary wiring harness for navigation **D**, seal the rubber grommet (50) with silicon (splash-water protection). ◀

Decouple the black 42-pole connector **X1170** of the hydraulic unit ABS and connect branch cables **D5** and **D6** as follows:

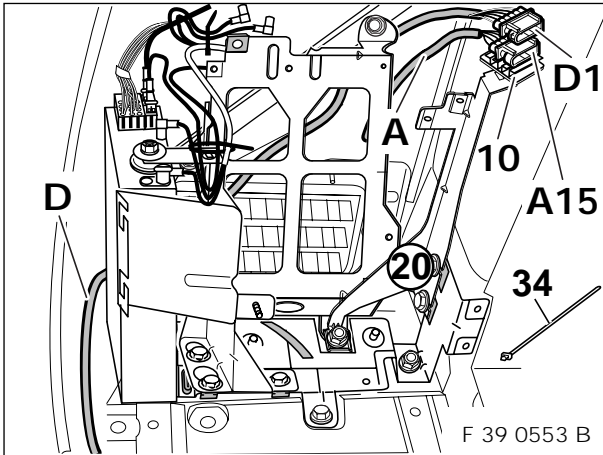
Pin in branch cable **D5**, 1-pole blade terminal contact, cable colour yellow/red, into connector **X1170** of the hydraulic unit ABS in plug-in place **PIN35**.

Pin in branch cable **D6**, 1-pole blade terminal contact, cable colour yellow/white, into connector **X1170** of the hydraulic unit ABS in plug-in place **PIN18**.

Re-couple connector **X1170** and plug onto hydraulic unit ABS.

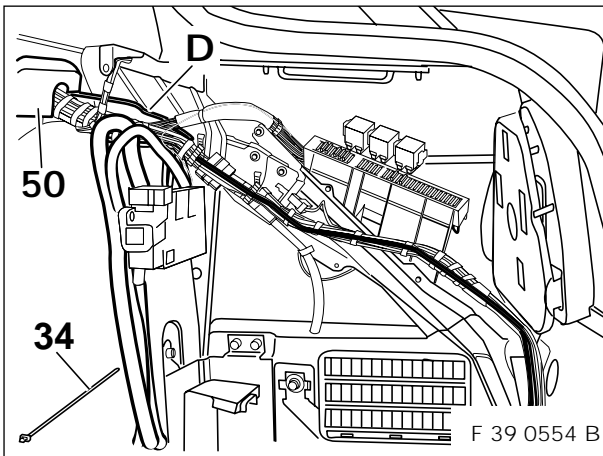
Then fasten supplementary wiring harness for navigation **D** in the area of the engine compartment with cable straps (26).

13. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 and PIN35 at connector of the hydraulic unit ABS assigned)

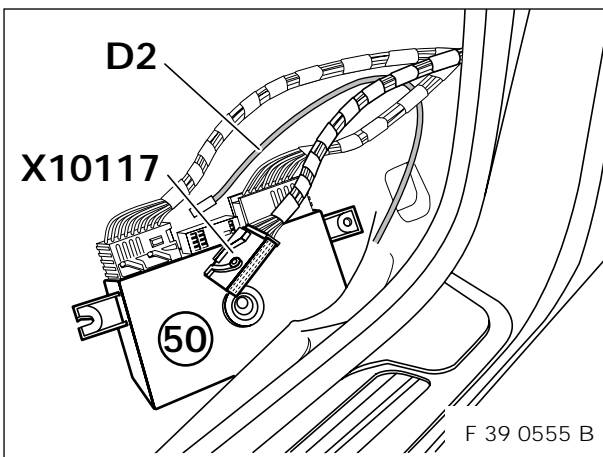


▶ Illustration shows boot, rear left. ◀

Clip the mounting clip (10) with the engaged branch cable **A15** coming from on-board monitor wiring harness **A** into the bracket of the video module, front (20). Engage branch cable **D1**, black 6-pole pin housing, coming from supplementary wiring harness for navigation **D**, onto branch cable **A15**. Install supplementary wiring harness for navigation **D** along the closing panel to the right side part and from there through the lead-through grommet in the boot upper right. Attach supplementary wiring harness for navigation **D** with cable straps (34).

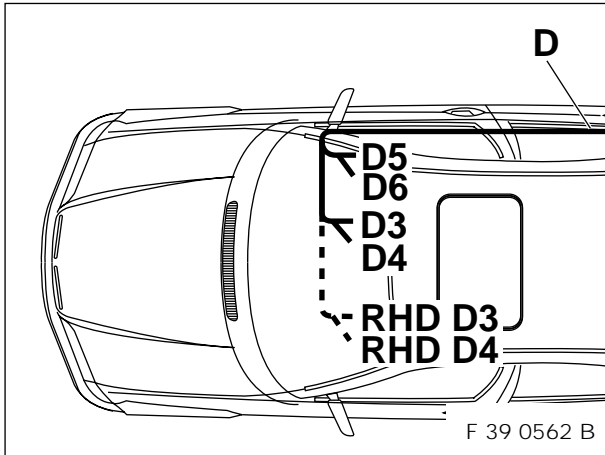


Install supplementary wiring harness for navigation **D** with branch cables **D2**, **D3**, **D4**, **D5** and **D6** through the lead-through grommet (50) in the vehicle interior and along the right-hand side main cable loom to the installation location of the light module in the A-pillar, right. Fasten with cable straps (34).



Dismantle light module (50), unplug the black 54-pole socket housing **X10117** from the light module (50) and open it. Plug branch cable **D2**, 1-pole blade terminal contact, cable colour white/yellow, into **PIN38** of the black 54-pole socket housing **X10117**. Then close black socket housing **X10117**, connect it and re-install light module (50). If necessary tie back excess length of supplementary wiring harness for navigation **D** before branch cable **D2**.

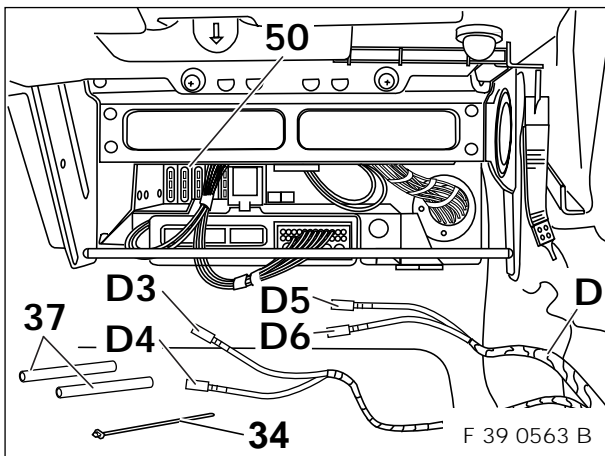
13. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 and PIN35 at connector of the hydraulic unit ABS assigned)



Insulate branch cables **D5** and **D6** of the supplementary wiring harness for navigation **D** with shrinkage tubing and tie back in the area of the right front sill.

In left-hand drive vehicles, install branch cables **D3** and **D4** of the supplementary wiring harness for navigation **D** to the joint connector box behind the glove box (excess length must be tied back) and connect to the joint connectors **X10183** and **X10184**.

In right-hand drive vehicles, install branch cables **D3** and **D4** of the supplementary wiring harness for navigation **D** behind the heater box to the left to the joint connector box behind the glove box and connect to the joint connectors **X10183** and **X10184**.



▶ Illustration shows the area behind the glove box in a left-hand drive vehicle. You should proceed in the identical sequence for right-hand drive vehicles. ◀

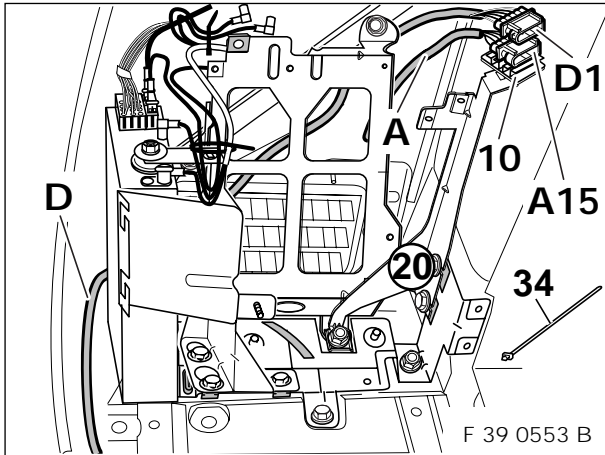
Push on a shrinkage tubing (37) for insulation in each case onto branch cable **D5**, 1-pole blade terminal contact, cable colour yellow/red, and branch cable **D6**, 1-pole blade terminal contact, cable colour yellow/white, of the supplementary wiring harness for navigation **D**, and shrink them on with hot-air dryer.

Then tie back branch cables **D5** and **D6** in the area of the right front sill with cable straps (34). Plug branch cable **D3**, 1-pole blade terminal contact, cable colour yellow/red, onto the joint connector **X10183** (cable colour at joint connector yellow/red) in the joint connector box (50) behind the glove box.

Plug branch cable **D4**, 1-pole blade terminal contact, cable colour yellow/white, onto the joint connector **X10184** (cable colour at joint connector yellow/white) in the joint connector box (50) behind the glove box.

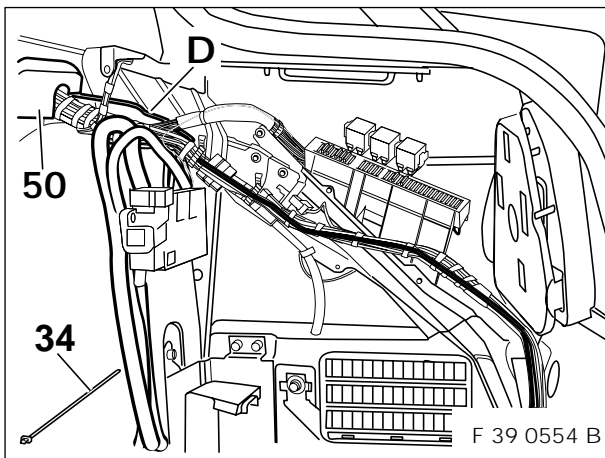
Any excessive lengths of branch cables **D3** and **D4** should be tied back with cable straps (34).

14. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 assigned and PIN35 not assigned at connector of the hydraulic unit ABS)

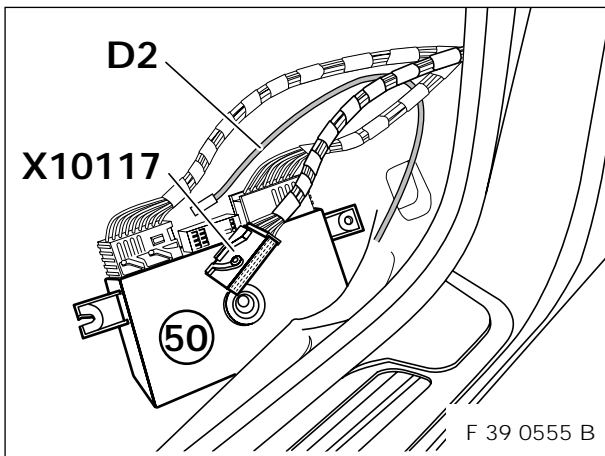


▶ Illustration shows boot, rear left. ◀

Clip the mounting clip (10) with the engaged branch cable **A15** coming from on-board monitor wiring harness **A** into the bracket of the video module, front (20). Engage branch cable **D1**, black 6-pole pin housing, coming from supplementary wiring harness for navigation **D**, onto branch cable **A15**. Install supplementary wiring harness for navigation **D** along the closing panel to the right side part and from there through the lead-through grommet in the boot upper right. Attach supplementary wiring harness for navigation **D** with cable straps (34).

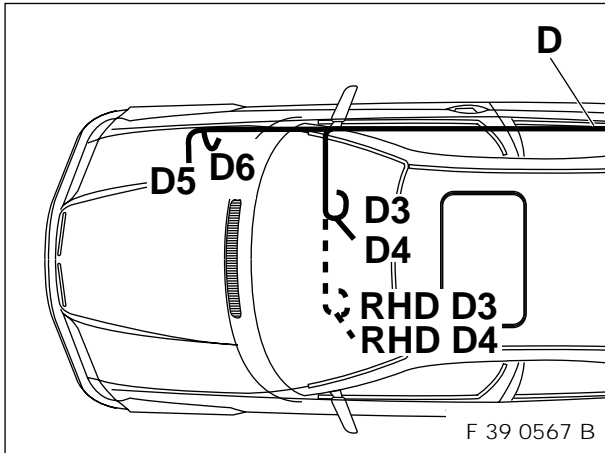


Install supplementary wiring harness for navigation **D** with branch cables **D2**, **D3**, **D4**, **D5** and **D6** through the lead-through grommet (50) in the vehicle interior and along the right-hand side main cable loom to the installation location of the light module in the A-pillar, right. Fasten with cable straps (34).



Dismantle light module (50), unplug the black 54-pole socket housing **X10017** from the light module (50) and open it. Plug branch cable **D2**, 1-pole blade terminal contact, cable colour white/yellow, into **PIN38** of the black 54-pole socket housing **X10017**. Then close black socket housing **X10017**, connect it and re-install light module (50). If necessary tie back excess length of supplementary wiring harness for navigation **D** before branch cable **D2**.

14. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 assigned and PIN35 not assigned at connector of the hydraulic unit ABS)



! Before further installation of the supplementary wiring harness for navigation **D** is undertaken, the cover for the control unit box in the engine compartment, right, should be dismantled. ◀

Install branch cables **D5** and **D6** of the supplementary wiring harness for navigation **D** through the lead-through grommet in the bulkhead, front right, into the control unit box and from there onwards to the hydraulic unit ABS.

Only connect branch cable **D5** to the connector **X1170** of the hydraulic unit ABS.

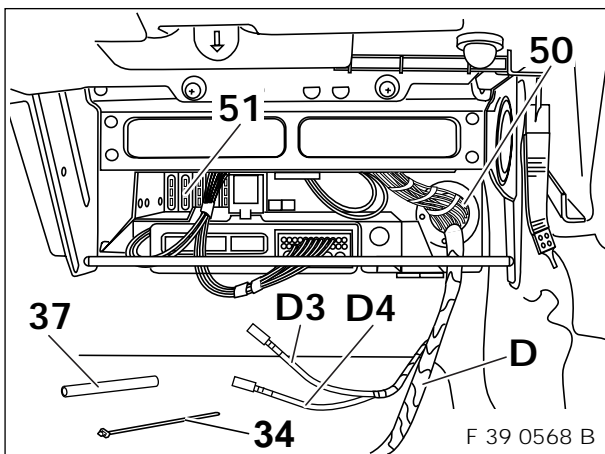
Insulate branch cable **D6** with shrinkage tubing and tie it back.

In left-hand drive vehicles, install branch cable **D3** and **D4** of the supplementary wiring harness for navigation **D** to the joint connector box behind the glove box (excess length must be tied back).

In right-hand drive vehicles, install branch cable **D3** and **D4** behind the heater box towards the left to the joint connector box behind the glove box and fasten with cable straps.

Insulate branch cable **D3** with shrinkage tubing and tie back.

Only connect branch cable **D4** to the joint connector **X10184**.



▶ Illustration shows the area behind the glove box in a left-hand drive vehicle. You should proceed in the identical sequence for right-hand drive vehicles. ◀

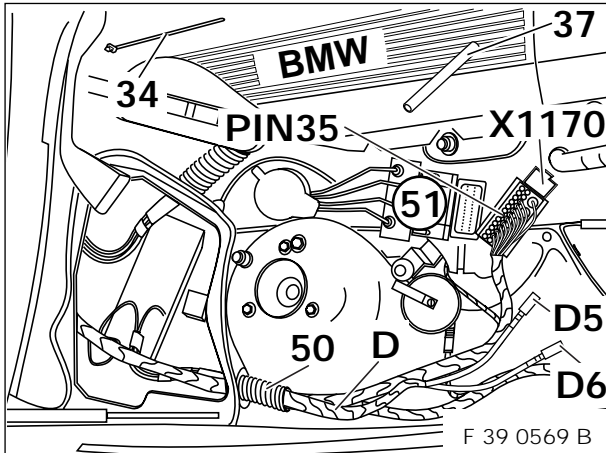
Feed the supplementary wiring harness for navigation **D** with branch cables **D5** and **D6** through the lead-through grommet (50) in the bulkhead, front right, to the control unit box in the engine compartment and fasten with cable straps (34).

Push on a shrinkage tubing (37) for insulation onto branch cable **D3**, 1-pole blade terminal contact, cable colour yellow/red, shrink it on with hot-air dryer and tie it back.

Then connect branch cable **D4**, 1-pole blade terminal contact, cable colour yellow/white to joint connector **X10184**, (cable colour at joint connector yellow/white) in the joint connector box (51) behind the glove box.

Any excess length of branch cable **D3** and **D4** should be tied back with cable strap (34).

14. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 assigned and PIN35 not assigned at connector of the hydraulic unit ABS)



Carefully cut open rubber grommet (50) at the control unit box in the front area and push supplementary wiring harness for navigation **D** with branch cables **D5** and **D6** carefully through the opening in the rubber grommet (50) and install to the hydraulic unit ABS (51).

▶ Having installed the supplementary wiring harness for navigation **D**, seal the opening in the rubber grommet (50) with silicon (splash-water protection) ◀

Decouple the black 42-pole connector **X1170** of the hydraulic unit ABS and connect branch cable **D5** as follows:

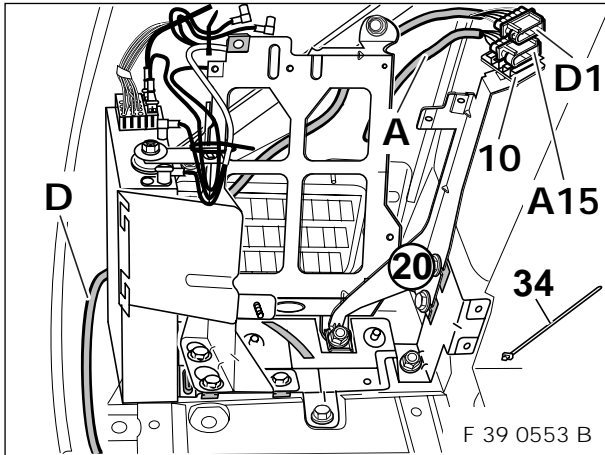
Pin in branch cable **D5**, 1-pole blade terminal contact, cable colour yellow/red, into connector **X1170** of the hydraulic unit ABS in plug-in place **PIN35**.

Push onto branch cable **D6**, 1-pole blade terminal contact, cable colour yellow/white, one shrinkage tubing (37) for insulation, shrink on with hot air blower and tie back.

Re-couple connector **X1170** and plug onto hydraulic unit ABS.

Then fasten supplementary wiring harness for navigation **D** in the area of the engine compartment with cable straps (34).

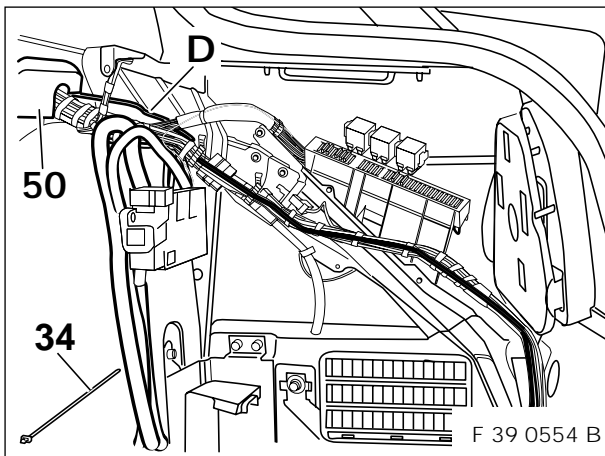
15. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 not assigned and PIN35 assigned at connector of the hydraulic unit ABS)



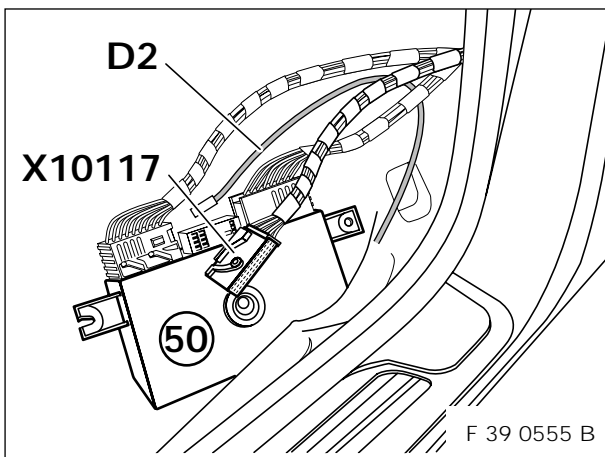
▶ Illustration shows boot, rear left. ◀

Clip the mounting clip (10) with the engaged branch cable **A15** coming from on-board monitor wiring harness **A** into the bracket of the video module, front (20).

Engage branch cable **D1**, black 6-pole pin housing, coming from supplementary wiring harness for navigation **D**, onto branch cable **A15**. Install supplementary wiring harness for navigation **D** along the closing panel to the right side part and from there through the lead-through grommet in the boot upper right. Attach supplementary wiring harness for navigation **D** with cable straps (34).

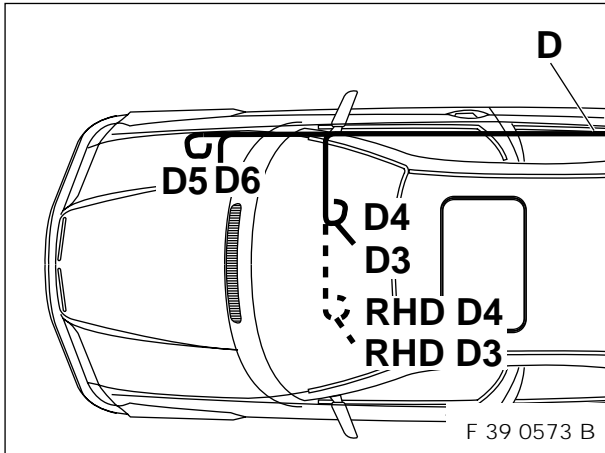


Install supplementary wiring harness for navigation **D** with branch cables **D2**, **D3**, **D4**, **D5** and **D6** through the lead-through grommet (50) in the vehicle interior and along the right-hand side main cable loom to the installation location of the light module in the A-pillar, right. Fasten with cable straps (34).



Dismantle light module (50), unplug the black 54-pole socket housing **X10117** from the light module (50) and open it. Plug branch cable **D2**, 1-pole blade terminal contact, cable colour white/yellow, into PIN38 of the black 54-pole socket housing **X10117**. Then close black socket housing **X10117**, connect it and re-install light module (50). If necessary tie back excess length of supplementary wiring harness for navigation **D** before branch cable **D2**.

15. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 not assigned and PIN35 assigned at connector of the hydraulic unit ABS)



⚠ Before further installation of the supplementary wiring harness for navigation **D is undertaken, the cover of the control unit box in the engine compartment, right, should be dismantled. ◀**

Install branch cables **D5** and **D6** of the supplementary wiring harness for navigation **D** through the lead-through grommet in the bulkhead, front right, into the control unit box and from there onwards to the hydraulic unit ABS.

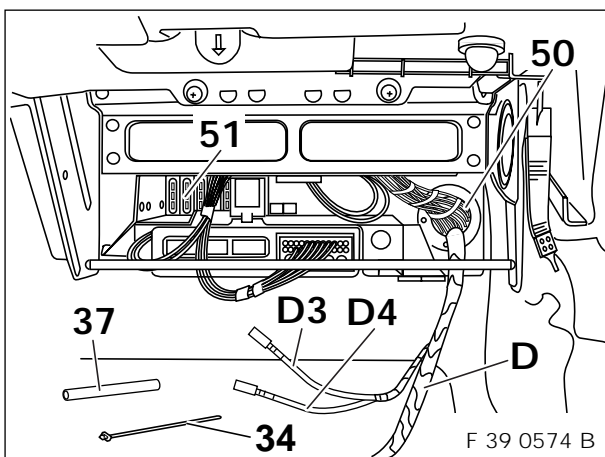
Insulate branch cable **D5** with shrinkage tubing and tie it back.

Connect only branch cable **D6** to connector **X1170** of hydraulic unit ABS.

In left-hand drive vehicles, install branch cables **D3** and **D4** of the supplementary wiring harness for navigation **D** to the joint connector box behind the glove box (excess lengths must be tied back).

In right-hand drive vehicles, install branch cables **D3** and **D4** behind the heater box towards the left to the joint connector box behind the glove box and fasten with cable straps. Only connect branch cable **D3** to joint connector **X10183**.

Insulate branch cable **D4** and tie it back.



▶ Illustration shows the area behind the glove box in a left-hand drive vehicle. You should proceed in the identical sequence for right-hand drive vehicles. ◀

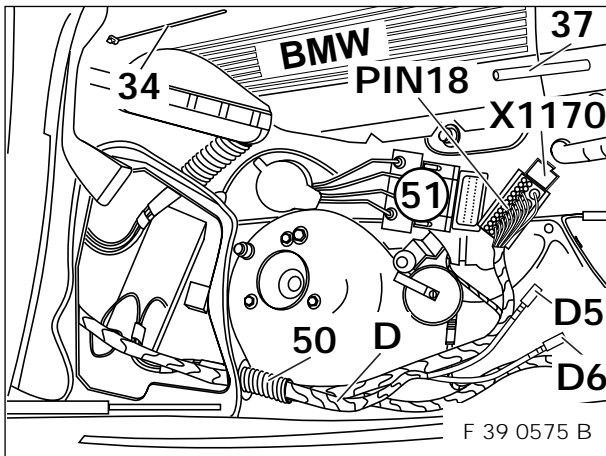
Feed the supplementary wiring harness for navigation **D** with branch cables **D5** and **D6** through the lead-through grommet (50) in the bulkhead, front right, to the control unit box in the engine compartment and fasten with cable straps (34).

Push a shrinkage tubing (37) for insulation onto branch cable **D4**, 1-pole blade terminal contact, cable colour yellow/white, shrink it on with hot-air dryer and tie it back.

Then connect branch cable **D3**, 1-pole blade terminal contact, cable colour yellow/red, to joint connector **X10183** (cable colour at joint connector yellow/red) in the joint connector box (51) behind the glove box.

Any excess length of branch cable **D3** and **D4** should be tied back with cable straps (34)

15. Install supplementary wiring harness for navigation in vehicles from production date 9/98 (PIN18 not assigned and PIN35 assigned at connector of the hydraulic unit ABS)



Carefully cut open rubber grommet (50) at the control unit box in the front area and push supplementary wiring harness for navigation **D** with branch cables **D5** and **D6** carefully through the opening in the rubber grommet (50) and install to the hydraulic unit ABS (51).

▣ Having installed the supplementary wiring harness for navigation **D**, seal the opening in the rubber grommet (50) with silicon (splash-water protection). ◀

Decouple the black 42-pole connector **X1170** of the hydraulic unit ABS and connect branch cable **D6** as follows:

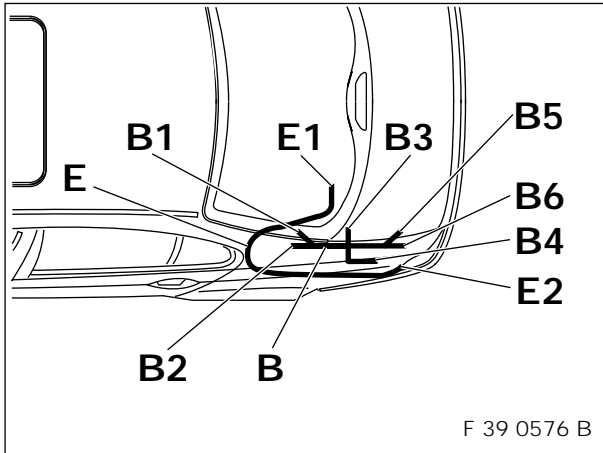
Pin branch cable **D6**, 1-pole blade terminal contact, cable colour yellow/white, into connector **X1170** of the hydraulic unit ABS in plug-in place **PIN18**.

Push onto branch cable **D5**, 1-pole blade terminal contact, cable colour yellow/red, one shrinkage tubing (37) for insulation, shrink on with hot air blower and tie back.

Re-couple connector **X1170** and plug onto hydraulic unit ABS.

Then fasten supplementary wiring harness for navigation **D** in the area of the engine compartment with cable straps (34).

16. Install navigation system



Overview for installation of the navigation wiring harness **B** and the antenna extension for GPS antenna **E**.

Navigation wiring harness **B**

Branch cable **B1** to free branch cable **A15** coming from on-board monitor wiring harness **A** at bracket of video module, front

Branch cable **B2** to free branch cable **C1/D1** of the supplementary wiring harness for navigation **C/D** at the bracket of the video module, front
Tie back branch cable **B3** at navigation wiring harness **B**.

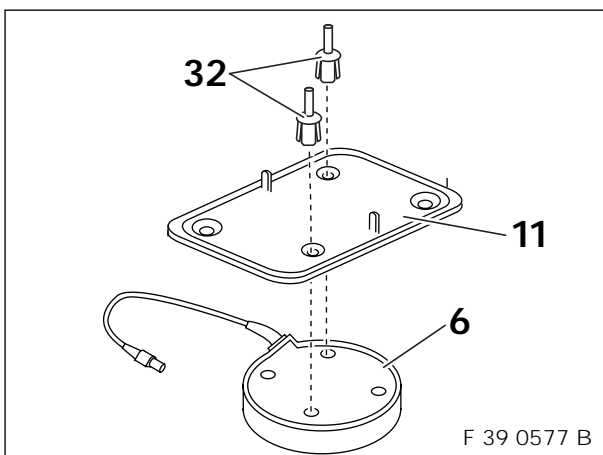
Branch cable **B4** to connector of Basis-Interface Telephone 2 (BIT2) or tie back in vehicles without (BIT2)

Branch cables **B5** and **B6** to installation location of the navigation computer

Antenna extension for GPS antenna **E**

Branch cable **E1** to installation location of the GPS antenna under the rear window shelf

Branch cable **E2** to installation location of the navigation computer.



Place support of GPS antenna (11) on the GPS antenna (6) and attach it with 2 expanding rivets (32)

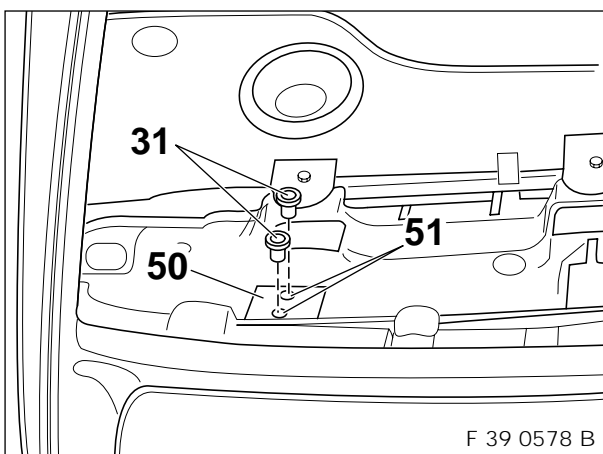
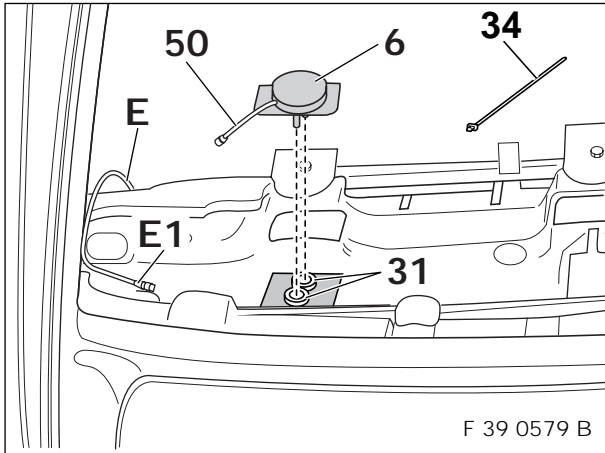


 Illustration shows rear window shelf, left. ◀

Take out pre-punched cut-out (50) under the rear window shelf.

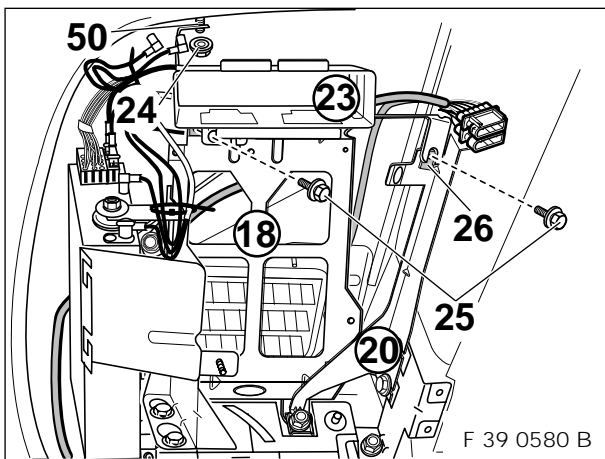
Check existing attachment points (51) for diameter \varnothing 8 mm. If necessary, rebore attachment points to diameter \varnothing 8 mm. Press in attachment grommets (31) into the attachment points (51).

16. Install navigation system



Insert holder for GPS antenna with mounted GPS antenna in the attachment grommets (31). Connect together branch cable **E1**, coaxial pin housing, of the antenna extension for GPS antenna **E**, with the antenna cable (50) of the GPS antenna (6).

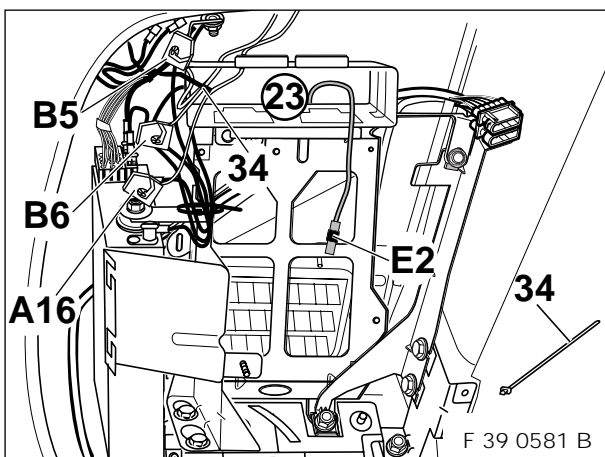
Install antenna extension for GPS antenna **E** along the audio wiring harness, through the lead-through grommet behind the rear seat back to the installation location of the navigation computer in the boot, rear left and fasten with cable straps (34).



Put plug-in nut M5 (26) onto bracket for video module, front (20).

Insert bracket of navigation computer (23), screw on with the hex nut with washer M5 (24) to the threaded bolt (50) of the reinforcement of the water gutter and with two hexagon-head bolts with washers M5x14 (25) to the bracket of the DSP amplifier (18) and to the bracket of the video module, front (20).

▶ If the vehicle is equipped with telephone or handy, the existing hex nut with washer M5 of the bracket of the telephone should be used. ◀



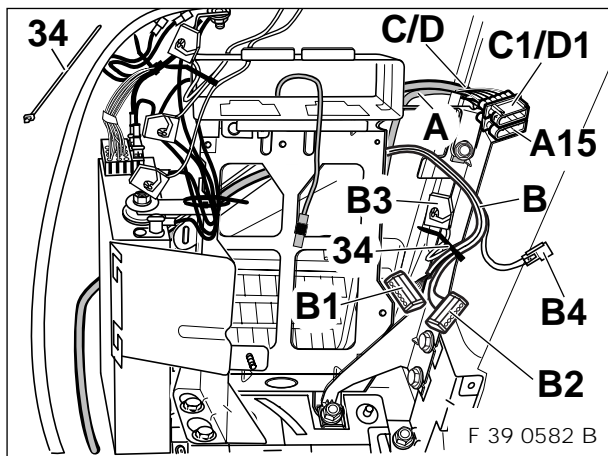
Push branch cable **A16**, blue 18-pole socket housing, of the on-board monitor wiring harness **A** through the bracket of the navigation computer (23).

Push branch cable **B5**, blue 18-pole socket housing, and branch cable **B6**, Bordeaux-coloured 18-pole socket housing, of the navigation wiring harness **B**, through the bracket of the navigation computer (23).

Then tie back branch cable **B5** with cable strap (34) to the navigation wiring harness **B**.

Push branch cable **E2**, coaxial socket housing, of the antenna extension for GPS antenna **E** through the bracket of the navigation computer (23).

16. Install navigation system



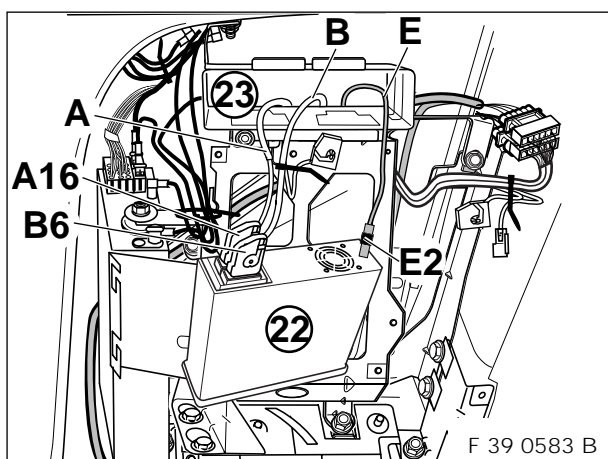
Tie back branch cable **B3**, white 18-pole socket housing of the navigation wiring harness **B** with cable strap (34) to the navigation wiring harness **B**.

Plug together branch cable **B2**, black 6-pole socket housing, of the navigation wiring harness **B** with the branch cable **C1/D1**, black 6-pole pin housing, coming from supplementary wiring harness for navigation **C/D**.

Plug together branch cable **B1**, white 6-pole socket housing, of the navigation wiring harness **B** with branch cable **A15**, white 6-pole pin housing, of the on-board monitor wiring harness **A**.

Then fasten navigation wiring harness **B**, on-board monitor wiring harness **A** and supplementary wiring harness for navigation **C/D** with cable straps (34).

! In vehicles which are equipped with Basis Interface Telephone 2 (BIT 2), branch cable **B4**, black 6-pole pin housing, of the navigation wiring harness **B** should be plugged together with the black 6-pole socket housing of the Basis Interface Telephone 2 wiring harness (BIT2). In vehicles without Basis Interface Telephone 2 (BIT2), insulate branch cable **B4** and tie back. ◀



Plug in branch cable **A16**, blue 18-pole socket housing, of the on-board monitor wiring harness **A**, to the navigation computer (22).

Plug in branch cable **B6**, Bordeaux-coloured 18-pole socket housing with tied-back branch cable **B5** of the navigation wiring harness **B**, to the navigation computer (22).

Plug in branch cable **E2**, coaxial socket housing, of the antenna extension for GPS antenna **E** to the navigation computer (22).

! When pushing in the navigation computer (22), care should be taken to see that no cables or leads get jammed in or damaged (also behind the navigation computer). ◀

Push navigation computer (22) into the bracket of the navigation computer (23) until it engages. Then install the **new** trim panel of the boot, rear left, which has been separately ordered in accordance with the Electronic Parts Catalogue (EPC).

17. Coding and finalising operations



If the video module and TV amplifiers for TV function are to be fitted additionally in the vehicle, the **Coding** and **Finalising operations** should be carried out after the video module and TV amplifiers for TV function have been fitted. ◀

Coding

This system is coding-relevant.

So that the retrofit system:

- is fully functional and
- in association with the other electrical vehicle systems excludes malfunctions and faults, a coding of this retrofit system, and if necessary other vehicle components, must be carried out and stored in the central coding key of the IKE.

This coding is carried out automatically with the respective current coding programme in the "**Retrofit**" path.

The sequence is operator-guided and you should note the relevant text instructions when carrying out the individual steps.

Procedure:

- Connect DIS/MoDIC to the vehicle
- Ignition "**ON**"
- Selection "**Coding ZCS**"
- Confirm input data with "**Y**" (only with MoDIC)
- Series: "**E39**"
- Path: "**2 Retrofit**"
- System: "**7 Navigation**"



A "**Navigation CD-ROM Operating software V16**" is necessary for loading the operating system.

Caution! Do not put the CD-ROM "**Operating software V16**" in the CD drive yet! Put the CD-ROM "**Operating software V16**" in only when told to do so on the on-board monitor. The language coding is carried out simultaneously with this CD-ROM "**Operating software V16**". ◀

- Start automatic coding (confirm with "**Y**")
- Follow the instructions on the on-board monitor
- Print out new master label of the changed coding key and stick it in the vehicle boot on the right in the area of the battery
- After the message "**Coding ended**" on the screen of the DIS/MoDIC, ignition "**OFF**", wait for at least 10 seconds and then ignition "**ON**" again.
- Print out error memory
- Insert CD-ROM "**Road map**" in the navigation computer
- Carry out function test.

17. Coding and finalising operations



In vehicles with DSP amplifier, the DSP amplifier must be newly coded in addition. ◀

Procedure:

- Connect DIS/MoDIC to the vehicle
- Ignition "**ON**"
- Selection "**Coding ZCS**"
- Confirm input data with "**Y**" (only with MoDIC)
- Series: "**E39**"
- Path: "**1 Recoding**"
- System: "**82 DSP**"
- Start automatic coding (confirm with "**Y**")
- After the message "**Coding ended**" on the screen of the DIS/MoDIC, ignition "**OFF**", wait for at least 10 seconds and then ignition "**ON**" again.
- Print out error memory
- Carry out function test.

Language coding

The language coding can be carried out again via the "**Navigation CD-ROM Operating software V16**".

Finalising operations

Connect battery
Carry out function test
Print out error memory
Reassemble the vehicle in the reverse order of disassembly.

18. Connection description for TV function



This chapter should only be taken note of if the vehicle is to be additionally equipped with TV function. ◀

To be in a position to equip the vehicle with TV function, the necessary parts (video module, TV amplifiers, small parts) have to be ordered separately with reference to the Electronic Parts Catalogue (EPC) and fitted.

The relevant branch cables of the wiring harnesses have also to be connected as follows:

Undo the tied-back branch cable **A4**, coaxial pin housing, of the on-board monitor wiring harness **A**, and plug it onto the previously mounted left TV amplifier in the left C-pillar.

Undo the tied-back branch cable **A5**, coaxial pin housing, of the on-board monitor wiring harness **A**, and plug it onto the previously mounted right TV amplifier in the right C-pillar.

Unplug branch cable **A16**, blue 18-pole socket housing of the on-board monitor wiring harness **A** from the navigation computer.

Undo branch cable **B5**, blue 18-pole socket housing, tied back to navigation wiring harness **B**, and plug it into the blue 18-pole pin housing at the navigation computer.

Undo branch cable **A6**, angled coaxial socket housing, and **A7**, angled coaxial socket housing (both tied back to the on-board monitor wiring harness **A**), and undo branch cable **B3**, white 18-pole socket housing, tied back to navigation wiring harness **B**.

Then install branch cables **A6**, **A7**, **A16** and **B3** to the video module and plug into the video module as follows:

Plug in branch cable **A6** and **A7**, angled coaxial socket housing, at the two coaxial pin housings of the video module.

Plug in branch cable **A16**, blue 18-pole socket housing, at blue 18-pole pin housing of the video module.

Plug in branch cable **B3**, white 18-pole socket housing, at the white 18-pole pin housing of the video module.



Should the vehicle be equipped at a later date with TV function, the system must be newly coded. For coding see Chapter 17 "**Coding and finalising operations**". ◀

19. Circuit diagram, on-board monitor wiring harness

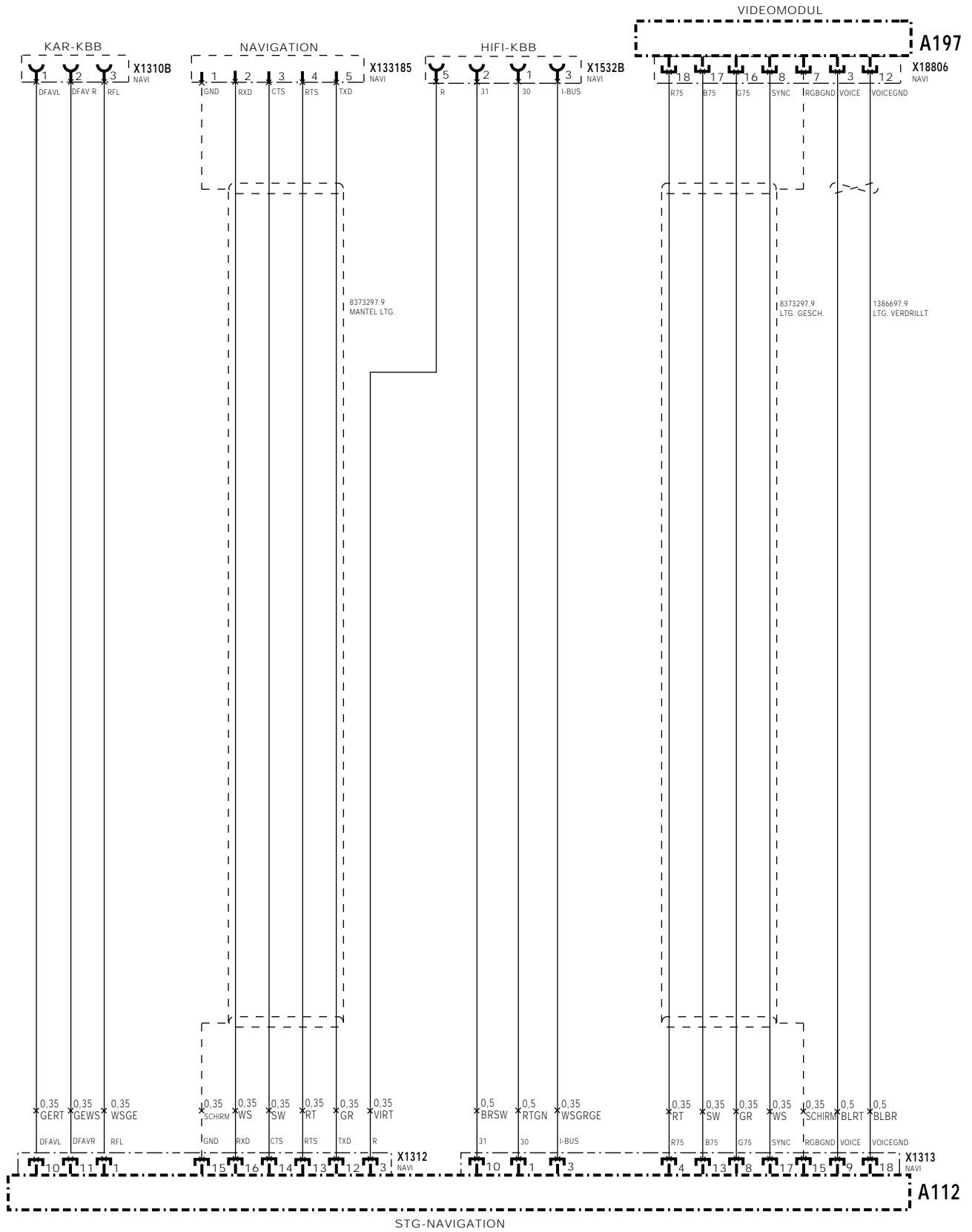
Key

A196	On-board monitor
A197	Video module
N9	Radio
X229	Connector R
X581	Connector speedo A
X1362	Connector 58g
X1532	Radio/hi-fi navigation
X1543	Connector 30 radio
X6500	Plug-in connector adapter
X13016	Earth stereo/hi-fi
X18126	Radio A
X18344	Connector I-Bus
X18801	On-board monitor operating unit
X18802	On-board monitor
X18804	Video module A
X18805	Radio B

Colour abbreviations

BR =	brown
RT =	red
VI =	violet
WS =	white
GR =	grey
SW =	black
GN =	green
GE =	yellow
BL =	blue

20. Circuit diagram, navigation system wiring harness



F 39 0585 B

20. Circuit diagram, navigation system wiring harness

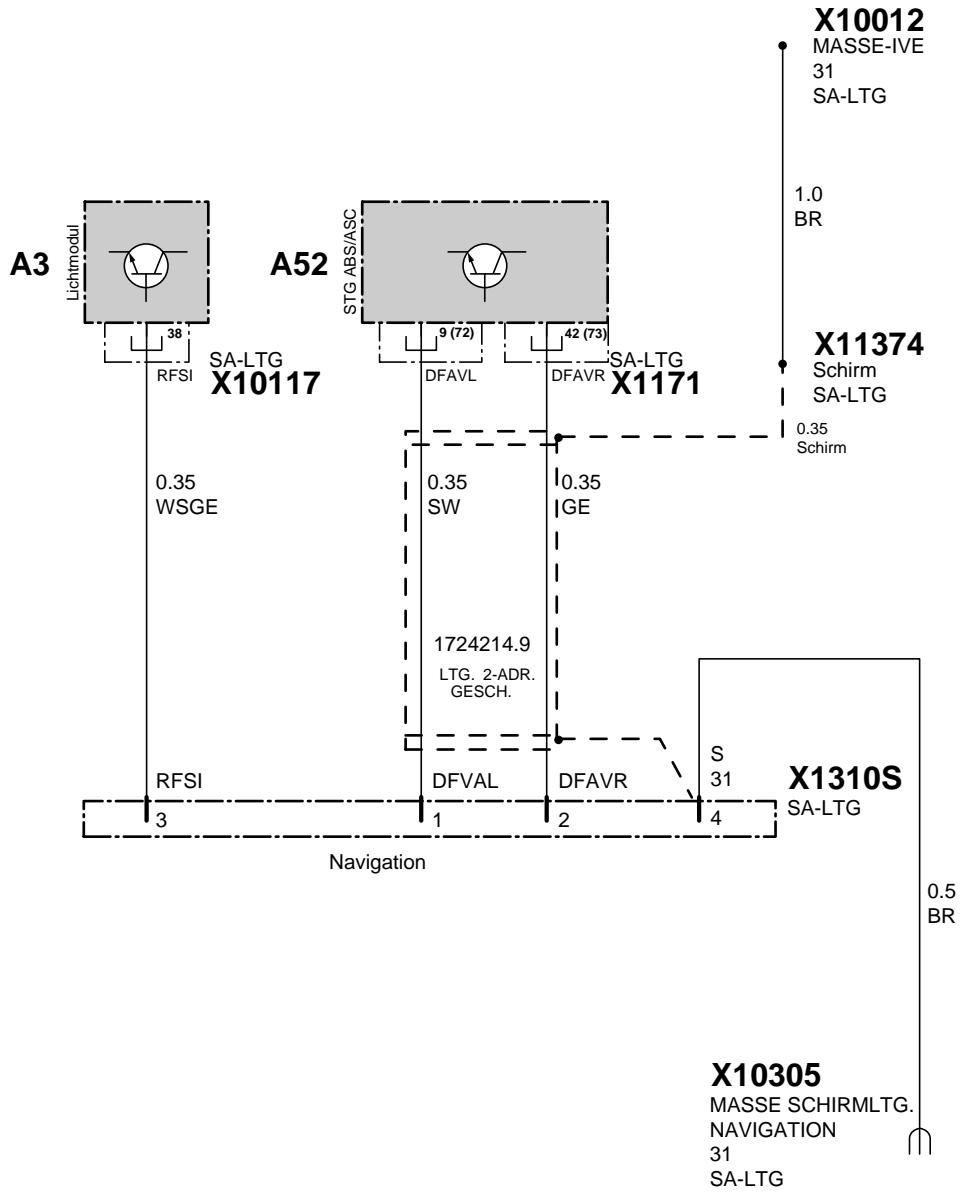
Key

- A112** STG navigation
- A197** Video module
- X1310** KAR navigation
- X1312** Navigation A
- X1313** Navigation B
- X1532** Radio/hi-fi-navigation
- X18806** Video module A
- X13318** Navigation/telephone

Colour abbreviations

- BR = brown
- RT = red
- VI = violet
- WS = white
- GR = grey
- SW = black
- GN = green
- GE = yellow
- BL = blue

21. Circuit diagram, supplementary wiring harness for navigation system in vehicles before production date 9/98



F 39 0587 B

21. Circuit diagram, supplementary wiring harness for navigation system in vehicles before production date 9/98

Key

A3 Light module

A52 Hydraulic unit ABS/ASC

X1171 ABS/ASC

X1310 KAR-Navigaion

X10012 Earth IVE

X10117 Black 54-pole socket housing of the light module

X10305 Earth shield line Navigation

X11374 Connector shield

Only for automatic vehicles with M62 B44 engine and DSC, from production date 9/97 to production date 9/98, does the DFAVL signal lie on PIN72 and the DFAVR signal on PIN73 of the ABS/ASC control unit plug X1171.

Colour abbreviations

BR = brown

RT = red

VI = violet

WS = white

GR = grey

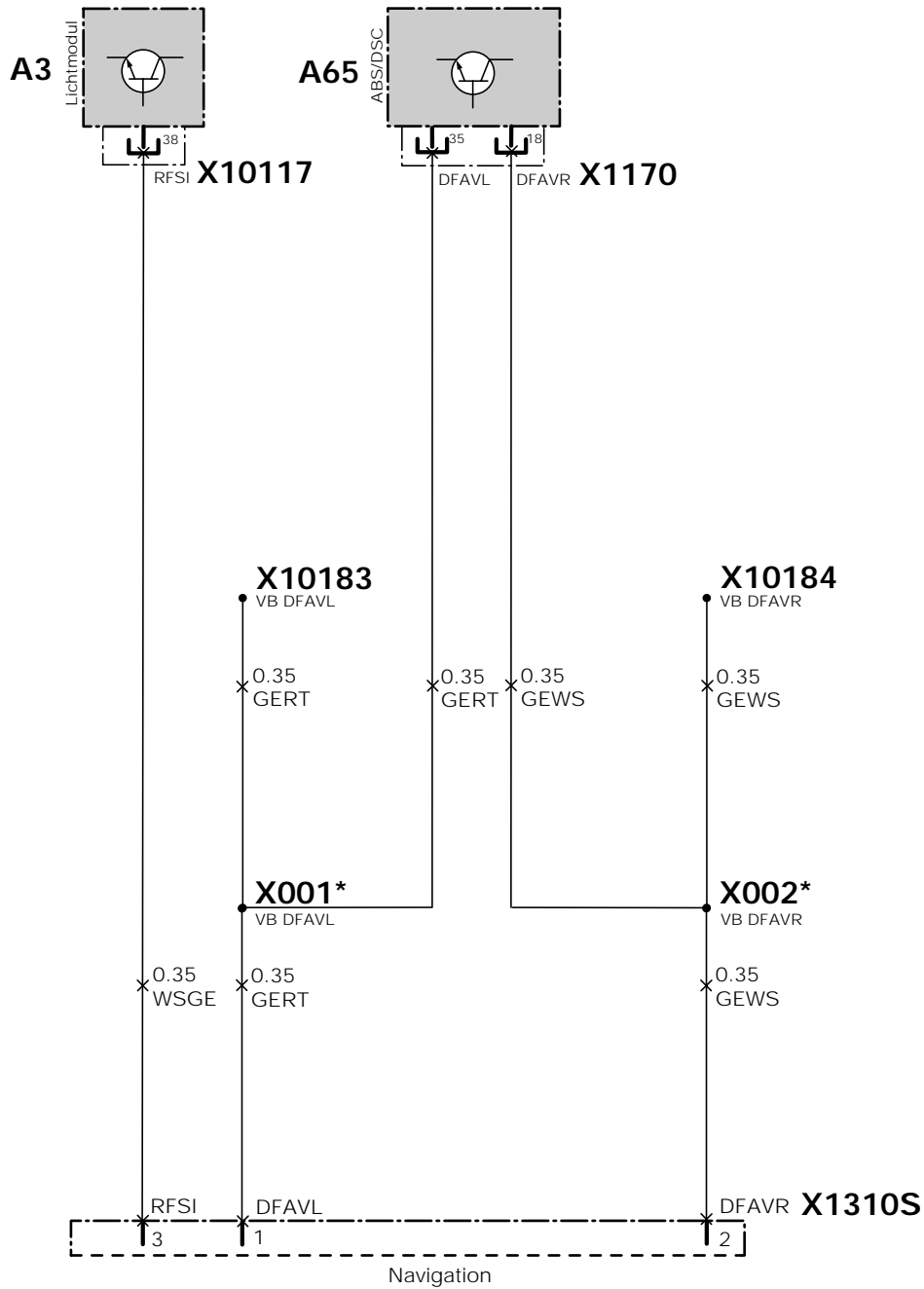
SW = black

GN = green

GE = yellow

BL = blue

22. Circuit diagram, supplementary wiring harness for navigation system in vehicles from production date 9/98



F 39 0586 B

22. Circuit diagram, supplementary wiring harness for navigation system in vehicles from production date 9/98

Legende

A3	Light module
A65	Hydraulic unit ABS/DSC
X001*	Connector DFAVL
X002*	Connector DFAVR
X1170	black 42-pole connector of hydraulic unit ABS/DSC
X1310S	black 6-pole pin housing
X10117	black 54-pole socket housing of the light module
X10183	Joint connector DFAVL
X10184	Joint connector DFAVR

The items marked * are only valid for this diagram. All other items and X-designations correspond to the BMW customer service circuit diagrams.

Colour abbreviations

BR =	brown
RT =	red
VI =	violet
WS =	white
GR =	grey
SW =	black
GN =	green
GE =	yellow
BL =	blue